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Private markets rally to new heights

McKinsey Global Private Markets Review 2022

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Executive summary

Welcome to the 2022 edition of McKinsey's annual review of private markets investing. Our ongoing research on the industry's dynamics and performance has revealed several insights, including the following trends:

Private markets bounced back in 2021. After a year of pandemic-driven turbulence that suppressed fundraising and deal activity, private markets rebounded across the board. Fundraising was up by nearly 20 percent year over year to reach a record of almost $1.2 trillion; deal makers were busier than ever, deploying more than $3.5 trillion across asset classes; and assets under management (AUM) grew to an all-time high of $9.8 trillion as of July, up from $7.4 trillion the year before. Dollars continued to fund higher risk-return strategies in private equity (PE) and infrastructure and rotated into riskier strategies in real estate.

A new set of risks emerged at the beginning of 2022 with the potential to undermine growth and performance. The Russian government's invasion of Ukraine, higher inflation and interest rates, and supply chain and labor challenges are already increasing volatility three months into the new year.

Private equity continued to drive global growth in private markets. Fundraising rebounded across regions, and global totals fell just short of the pre-pandemic peak established in 2019. AUM reached a new high of $6.3 trillion, driven primarily by asset appreciation within portfolios. With a pooled IRR of 27 percent in 2021, PE was once again the highest-performing private markets asset class. PE also continues to outperform relative to most public market equivalent (PME) measures.

LPs increased their exposure to earlier-stage private investing. Venture capital (VC) continued to attract capital on the back of a decade of strong performance but was outpaced by growth equity. With increased funding for VC and companies remaining private for longer, the investable universe of growth companies has expanded substantially. PE firms have moved to fill the space, and the supply of growth equity vehicles has evolved: in the last ten years, six of the ten largest buyout managers have launched a growth vehicle. Today, VC and growth equity combined make up 47 percent of PE fundraising, just shy of buyout's share.

PE fundraising 'winners' do so by growing their flagships and raising more frequently. While product proliferation plays a role, the 20 firms that have gained the greatest share of new capital raised over the last five years have done so predominantly by raising larger and more frequent flagship vehicles. These firms more than doubled the size of their flagship funds over the preceding half decade and raised every three years, on average. Last year's report showed that top-quartile

performance of the preceding vehicle in a fund family tends to lead to rapid growth of the next iteration. This year's data show that strong performance coupled with rapid deployment leads to share capture.

Deal activity surged, but average deal multiples did not. Global buyout and growth equity deal volume grew nearly 50 percent year on year to over $2 trillion in more than 14,000 transactions. A pandemic-driven backlog of companies that delayed sales processes in 2020 undoubtedly played a role in this year's record total. At the same time, buyout multiples declined slightly, perhaps due to a pandemic-driven mix shift in sectoral activity.

'Risk on' in real estate. Within real estate, investors rotated to higher risk-return strategies relative to their prepandemic preferences, which perhaps reflects investors anticipating buying opportunities in a stressed or distressed environment. Though valuations in several key real estate sectors fell in 2020, widespread distress has not materialized as many thought it might. Fundraising in opportunistic and value-add strategies grew sharply (57 and 12 percent, respectively) while open-end core and core-plus funds experienced net outflows. Investor concerns about rising inflation may prove to be a tailwind for the asset class, given its inflation-hedging properties.

Beds and sheds stayed warm. Deal volume in industrial properties (such as distribution centers) and multifamily housing grew, backed by changes in how people shop and where they live. The accelerated adoption of e-commerce during the pandemic stimulated interest in new industrial development. Despite fears of urban flight, hybrid work appears to be the default position, keeping employees within commutable ranges. In the US, rising rents and home prices showed little sign of slowing down.

Private debt is an asset class for all seasons. Fundraising growth continued in private debt, the only private asset class to grow fundraising every year since 2011, including through the pandemic. This cyclical resilience is partially driven by the diversity of private debt substrategies: when one zigs, another usually zags. Over the longer term, growth has been driven by a dramatic expansion in direct lending strategies, which have accounted for 73 percent of fundraising growth in the last decade.

Infrastructure—more than roads and bridges. In 2021, infrastructure and natural resources set all-time highs for fundraising, AUM, and deal volume; indeed, global AUM broke the $1 trillion mark for the first time. Over the last decade, infrastructure's mandate has evolved. Capital is increasingly flowing into subsectors that support the energy transition and digitization, such as alternative energy, clean-tech solutions focused on improving environmental sustainability, and "infratech." Investors are also looking beyond physical assets at operating companies and technologies to generate value.

The sustainability transition presents opportunities and risks—both substantial. GPs and LPs continued to formalize environmental, social, and governance (ESG) commitments in 2021: over half of total fundraising—the highest percentage ever—flowed to firms with formal policies. Investors have become particularly focused on environmental sustainability, a potential win-win for private markets investors who support positive impact while driving returns. Firms can create value by transforming unsustainable business models into green ones and investing in companies scaling decarbonization technologies. Considering climate risk in underwriting is now an imperative; those that do not run the risk of mispricing their investments.

Private markets firms are making progress on diversity, but work remains. US PE firms have increased the percentage of ethnically diverse talent and women holding junior-level roles, and have made strides in female promotion and retention. On some metrics, PE firms even compare favorably with major corporations, although ethnic diversity is not yet broad based. Ethnic and gender diversity have not yet reached the C-suite at levels that would imply equity in the industry, suggesting that firms broadly continue to miss opportunities.

Key lessons emerge as firms accelerate investment in digital and analytics. Leading firms continue to make major investments in digital and analytics capabilities across both front and back office to capture economies of scale as they grow. Most are focused on building advanced analytics capabilities to identify opportunities and create value and on setting up investor portals to drive LP satisfaction, but they also get the basics right by creating high-quality digital infrastructure. As more investment institutions embark on digital transformation, they will need to focus on setting a use-case-driven vision, fighting for talent, and getting commitment from the C-suite.

About this report

McKinsey is the leading adviser to private markets firms, including private equity, real estate, private debt, and infrastructure firms, with a global practice substantially larger than any other firm. We are also the leading consultant partner to the institutional investors that allocate capital to private markets, such as pensions, insurance companies, sovereign wealth funds, endowments, foundations, and family offices.

This is the 2022 edition of our annual review of private markets.[1] To produce it, we have developed new analyses drawn from our long-running research on private markets, based on the industry's leading sources of data.[2] We have also gathered insights from our colleagues around the world who work closely with the world's leading GPs and LPs.

This report consists of two main sections: the first more numbers-driven,[3] the second more qualitative. The first section includes in-depth analysis of industry developments and trends in fundraising, performance, AUM, and deals across several private market asset classes: private equity, private debt, real estate, and natural resources and infrastructure. The second section (chapters six and seven) explores changes in private markets firms themselves, focusing on ways they address ESG and build out their digital capabilities.

We welcome your questions and suggestions at investing@mckinsey.com.

[1] We define private markets as closed-end funds investing in private equity, real estate, private debt, infrastructure, or natural resources, as well as related secondaries and funds of funds. We exclude hedge funds and, except where otherwise noted, publicly traded or open-end funds.

[2] Asian Venture Capital Journal (AVCJ), Bloomberg, Burgiss, Cambridge Associates, CBRE Research, CEM Benchmarking, CoStar, FTSE Russell, Global News, Green Street, Hamilton Lane, Infra-Deals, Jefferies Group, Joint Center for Housing Studies of Harvard University, Jones Lang LaSalle, LeanIn.org, Nareit, National Association of Realtors, National Association of Software and Service Companies (NASSCOM), National Council of Real Estate Investment Fiduciaries, Pew Charitable Trusts, PitchBook, Preqin, Principles for Responsible Investment (PRI), Private Equity International, Real Capital Analytics, Refinitiv, Science Based Targets initiative (SBTi), S&P Capital IQ, S&P Global, Securities and Exchange Commission, United States Census Bureau, United States Federal Reserve, *Wall Street Journal*, Wharton School of the University of Pennsylvania, World Bank, World Federation of Exchanges, Yardi Matrix, Zumper.

[3] For 2021, all data are based on reported numbers and will likely adjust as more figures continue to be reported. Performance data are as of September 30 for vintages 2008–18, unless otherwise noted; AUM data covers the 12-month period ending Q2; and fundraising data cover the full year 2021. All data for Asia exclude Australia and New Zealand unless otherwise noted.

1 Private markets bounce back

Private markets rebounded in 2021, after a year of pandemic-driven turbulence that suppressed fundraising and deal making. Fundraising climbed to a record of almost $1.2 trillion, up by almost 20 percent over 2020. Growth was widespread across asset classes and geographies, and deal makers were busier than ever, deploying more than $3.5 trillion across asset classes.

Total assets under management across private markets reached an all-time high of $9.8 trillion as of June 30, 2021, up from $7.4 trillion 12 months prior. Asset appreciation drove the majority of AUM growth, but dry powder also increased, up 16.6 percent over the prior period.

Institutional investors have continued to increase allocations to private markets at the expense of public markets, driven principally by private markets' outperformance. CEM Benchmarking notes an average allocation to private markets of 18.5 percent as of 2020, up nearly five percentage points since 2012. Nonetheless, institutional investors broadly remain underweight their targets to private markets. Meanwhile, retail investors, for whom access to the private markets has long been constrained, are receiving more attention. Private markets GPs are launching new products, devising alternative vehicle structures, and building out in-house wholesaling teams to tap into this vast pool of capital.

Finally, the highest-performing private markets asset class will come as little surprise: for the fifth consecutive year, PE took the top spot.

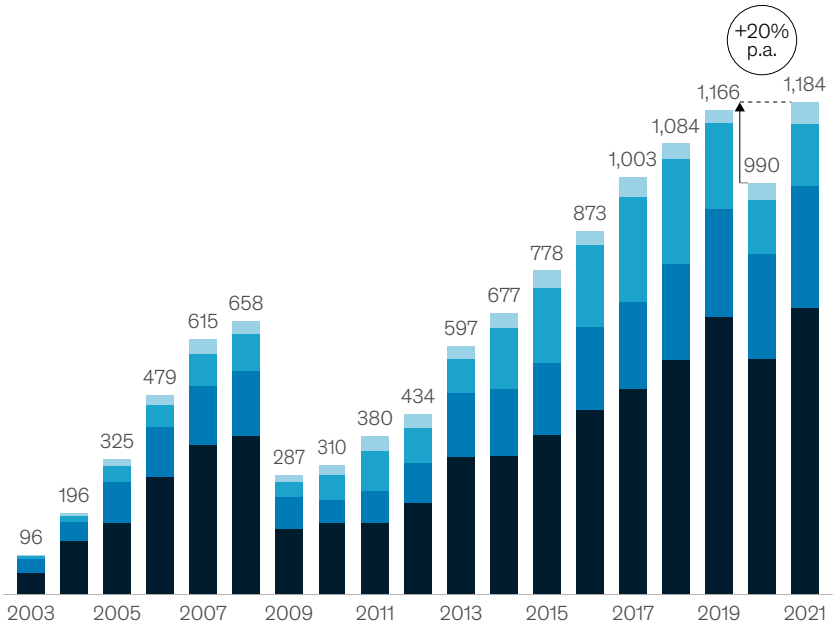
Private markets fundraising

2021 was a record year for fundraising, reaching almost $1.2 trillion (Exhibits 1 and 2). The total is almost $200 billion more than in 2020, when COVID-19 dramatically slowed fundraising in the second and third quarters, and approximately $20 billion above the previous fundraising peak in 2019. Growth in North America (22 percent) was faster than Europe (17 percent) or Asia (13 percent).

Exhibit 1

Private markets fundraising reached a new high.

Private markets fundraising by region,[1] $ billion



	2016–21 CAGR, %	2020–21 growth, %
Total	6.3	19.7
Rest of world	10.7	29.7
Asia	–5.6	13.1
Europe	8.1	16.9
North America	9.2	21.6

[1]Excludes secondaries, funds of funds, and co-investment vehicles to avoid double counting of capital fundraised.
Source: Preqin

Exhibit 2

Private markets fundraising grew approximately 20 percent in 2021.

Private markets in-year fundraising,[1] 2021

			Asset class			
		Private markets	Private equity	Real estate[2]	Private debt	Natural resources and infrastructure
North America	Total, $ billion	**688.8**	**400.4**	**119.6**	**123.4**	**45.5**
	2020–21, $ billion	122.3	79.3	38.8	13.4	–9.2
	YoY change, %	21.6	24.7	48.0	12.2	–16.8
Europe	Total, $ billion	**293.1**	**134.1**	**28.2**	**56.7**	**74.1**
	2020–21, $ billion	42.5	15.8	–13.5	5.6	34.6
	YoY change, %	16.9	13.3	–32.3	10.9	87.7
Asia	Total, $ billion	**147.7**	**111.7**	**20.2**	**9.2**	**6.6**
	2020–21, $ billion	17.1	17.6	0.9	–0.8	–0.6
	YoY change, %	13.1	18.7	4.8	–7.9	–8.6
Rest of world	Total, $ billion	**54.7**	**33.5**	**7.5**	**2.7**	**10.9**
	2020–21, $ billion	12.5	11.5	0.2	0.0	0.8
	YoY change, %	29.7	52.4	2.4	–0.1	8.1
Global	Total, $ billion	**1,184.3**	**679.9**	**175.5**	**192.0**	**137.1**
	2020–21, $ billion	194.4	124.3	26.4	18.2	25.7
	YoY change, %	19.7	22.4	17.7	10.5	23.0

[1]Excludes secondaries, funds of funds, and co-investment vehicles to avoid double counting of capital fundraised.
[2]Closed-end funds that invest in property. Includes core, core-plus, distressed, opportunistic, and value-added real estate, as well as real-estate debt funds.
Source: Preqin

Private markets AUM

Private markets AUM reached an all-time high of $9.8 trillion in the first half of 2021, 33 percent higher than the year before. The jump was driven primarily by an increase in net asset value (NAV),[1] which grew by $2.0 trillion. NAV growth was, in turn, driven principally by higher valuations on unrealized assets; invested capital and distributions were roughly equivalent during the year, producing offsetting AUM impacts, while dry powder growth had a relatively small impact on AUM growth during the period.

AUM increased in all private asset classes and particularly in private equity,[2] where AUM grew 37.7 percent to $6.3 trillion. PE's AUM now accounts for nearly two-thirds of the total across private markets globally.

[1] NAV = new capital invested – capital distributed + change in value of unrealized capital.
[2] Private equity includes buyout, venture capital, growth, and other PE.

Slightly more than half of global AUM resides in vehicles targeting North American investments (Exhibit 3). Europe and Asia are roughly equivalent in AUM, comprising 21 percent and 22 percent respectively—remarkable parity given the fact that Asia's AUM was just 60 percent of Europe's five years ago.

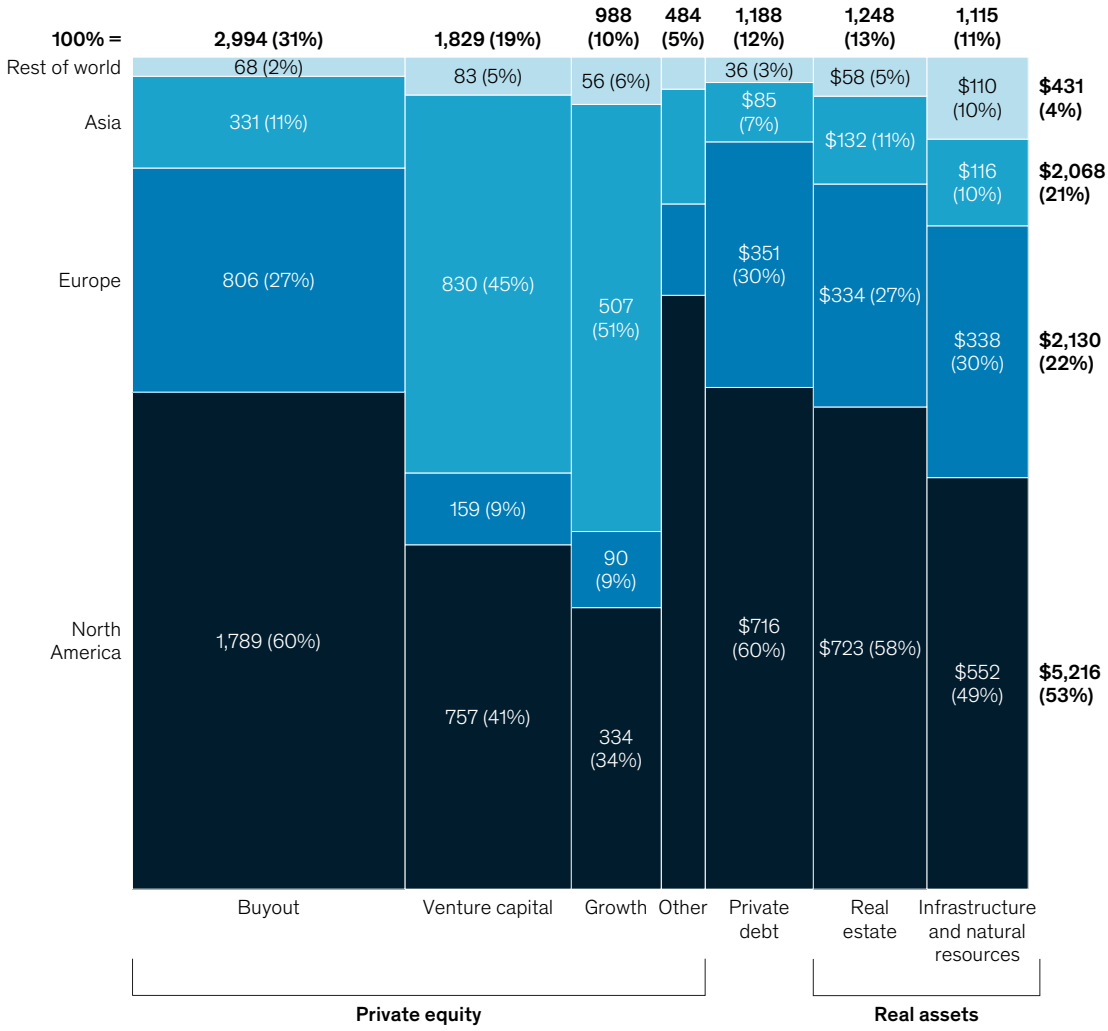
Structural demand from institutional investors fuels growth

Private markets' threefold growth in fundraising over the last decade has been powered by more institutional investors participating and at higher average target allocations. In the sustained low-rate environment of the last decade, institutional

Exhibit 3

More than half of global AUM is in vehicles targeting North American investments.

Private market assets under management, H1 2021, $ billion



Note: Figures may not sum precisely, because of rounding.
Source: Preqin

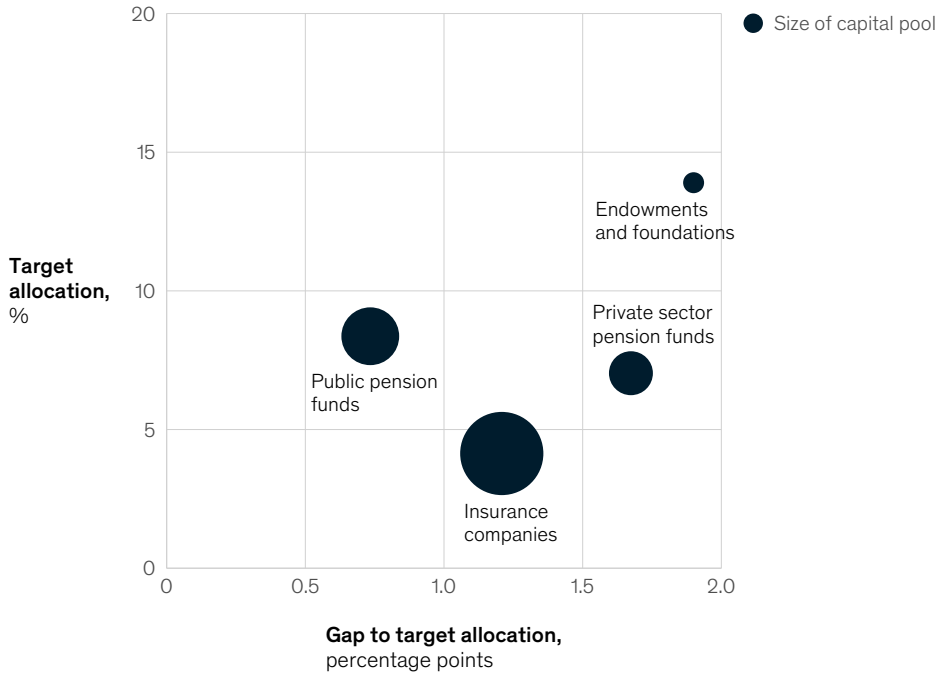
investors have steadily increased their allocations to private markets in a bid to achieve greater returns. There is good reason to believe that demand will continue to grow as LPs broadly remain below their respective targets for private markets asset classes. Over the last several years, the combination of rising targets and strong public market performance has increased the dollar gap between actual allocation and target allocation despite record commitments to private equity.

The composition of institutional demand has also changed. Endowments and foundations (E&Fs) were early movers, and private market allocations have long been a hallmark of the "endowment model." E&Fs continue to maintain higher targets than other institutional investors (Exhibit 4). But the dynamic has shifted over the last 20 years, and today most limited partner capital comes from larger capital pools. Chief among these are pensions, which have transitioned formerly conservative approaches

Exhibit 4

In 2021, institutional investors remained shy of private equity allocation targets.

Allocations to PE,[1] 2021, % of AUM



[1]Allocation as of end of 2021. Shifts in public equities can impact allocation gap.
Source: Preqin

closer to the endowment model, in part because most pensions remain underfunded, with liabilities that exceed their assets.[3] For instance, private equity targets for private- and public-sector pensions tend to be in the range of 7 to 8 percent of assets. These relatively mature pools are roughly half to one and a half percentage points below target. For E&Fs and pensions, the gap to target allocation has closed in recent years.

Two additional large pools of capital from insurance and retail have garnered attention from GPs. Several GPs, especially those with mature private credit investing capabilities, have created strategic relationships with insurance capital pools or acquired them outright. Retail investors, representing a pool of over $50 trillion, are a second large source of capital with growing interest in private markets. Allocations today remain in the low single digits, principally due to historical access constraints, but a combination of changing regulations, product innovation, and new GP distribution capabilities is bending the penetration curve. A recent survey[4] found that over a third of private markets managers anticipated having a retail-oriented vehicle in the next five years; just 9 percent have one today.

Private markets performance

For the fifth consecutive year, PE was the highest-performing private markets asset class. PE's in-year returns for 2020 and 2021 have substantially exceeded those of all other years following the global financial crisis (GFC).

Institutional investors remain shy of their private markets allocation targets despite record commitments in recent years.

[3] In 2019, the last year with official data, unfunded liabilities of state and local pensions totaled $4.1 trillion, as shown in "State and local government pension funding status, 2002–2019," Federal Reserve, updated December 17, 2021. Estimates suggest the funding gap has since declined, as discussed in "The state of pension funding gap: Plans have stabilized in wake of pandemic," Pew, September 14, 2021.
[4] Preqin special report, "Future of Alternatives 2025."

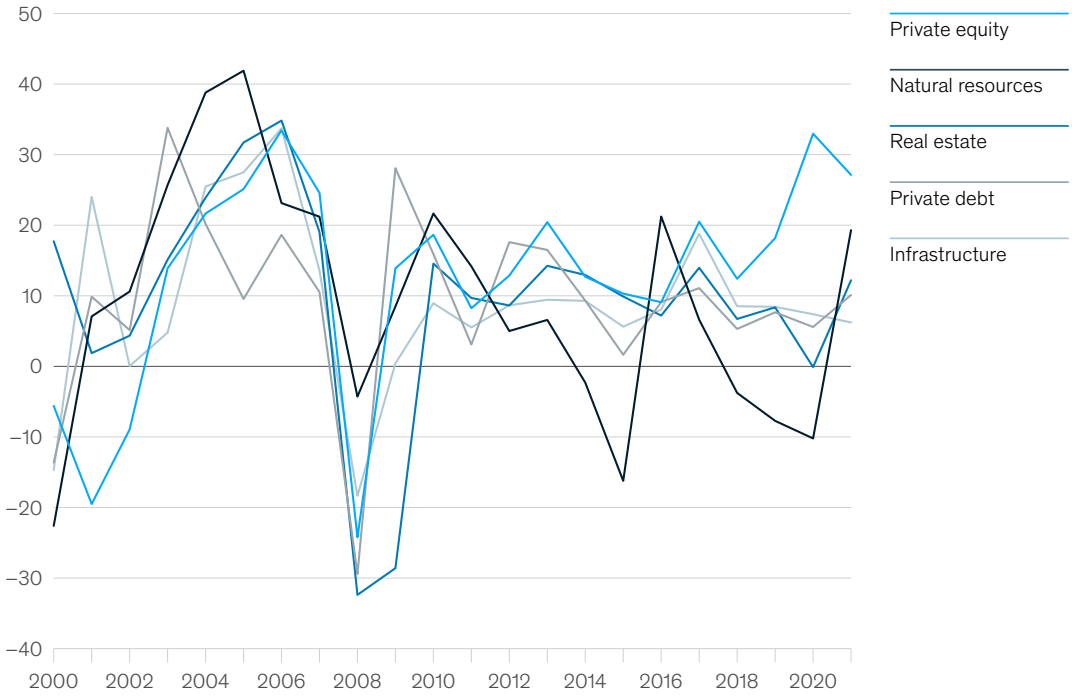
Compared with the year prior, natural resource investors achieved the most significant improvement in returns, propelled by rebounding commodities prices. Closed-end real estate and private debt funds likewise improved, while infrastructure and private equity underperformed relative to last year (Exhibit 5).

The gap in returns between top- and bottom-quartile PE funds is 20 percentage points, which indicates that vintage year timing, sub-asset class allocation, and manager selection all have the potential to add to or subtract meaningfully from portfolio performance. However, a fund at the top of the fourth quartile in PE would still have beaten a median fund

Exhibit 5

PE remained the highest-performing private markets asset class in 2021.

Global fund performance by asset class, 2000–18 vintages,[1] %

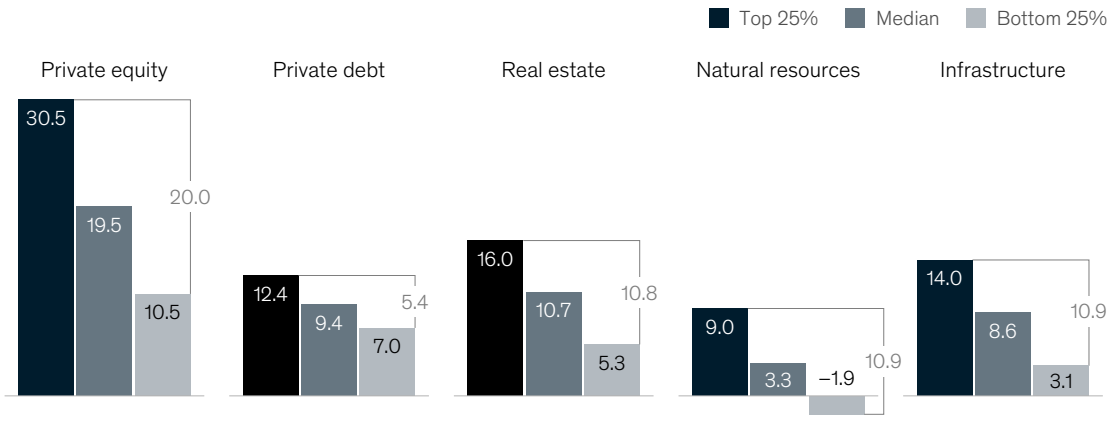


[1]Fund performance assessed using IRR calculated by grouping performance of 2000–18 funds during 2000–21. Some data not available for certain periods. IRR for 2021 is for the first 9 months (YTD as of Q3 2021).
Source: Burgiss

Exhibit 6

PE outperforms asset classes across quartiles.

Global fund performance by asset type, net IRR to date through Sept 30, 2021, 2008–18 vintages, %[1]



Note: Figures may not sum precisely, because of rounding.
[1]Methodology: IRR spreads calculated for funds within vintage years separately and then averaged out. Median IRR was calculated by taking the average of the median IRR for funds within each vintage year.
Source: Burgiss

in most other private asset classes (Exhibit 6). In other words, despite high dispersion, investing in PE has been rewarded in what have been benign years for investors since the GFC.

Conversely, an extended period of declining energy prices has muted returns for natural resources funds. Even with a strong year in 2021, the median net IRR to date of funds raised in 2008–18 stands at 3.3 percent, while fourth-quartile funds lost money. In other words, taking commodity risk has mostly been punished.

2 Private equity shows enduring strength

2021 was a banner year for private equity. The asset class continues to showcase resilience, growth in demand, and consistent outperformance compared with all other major asset classes. Practitioners have sustained this strength by deploying capital over an ever-growing population of deals.

Fundraising in PE rebounded globally, falling just short of a full recovery to pre-COVID-19 levels. LPs increased their exposure to earlier-stage private investing, as they did prior to the pandemic. VC continued to attract capital on the back of a decade of strong performance but was outpaced by growth equity. With increased funding for VC and companies remaining private for longer, the investable universe of growth companies has grown substantially. Together, VC and growth equity made up 47 percent of PE fundraising, just shy of buyout's share of 49 percent.

PE's AUM reached new heights in 2021, driven primarily by the increase in NAV due to higher-marked valuations. As it has for

the last decade, PE continued to outperform other private markets asset classes (its median IRR is markedly higher), as well as public markets equivalents. Median funds in every PE vintage since 2009 have returned, to date, at least 1.06 times the returns of PMEs.

Deal making surged, as many deals that were held up during the pandemic came to fruition. Global buyout and growth activity raced past 14,000 deals to reach $2.04 trillion in deal volume. At the same time, buyout multiples in the US declined slightly, perhaps due to a pandemic-driven mix shift in sectoral activity. In a year of strong deal activity, the rate of growth in dry powder slowed and inventories fell.

Fundraising

Fundraising rebounded in 2021 to $680 billion (Exhibit 7), continuing the long-term trend of fundraising growth.

Strong fundraising growth in 2021 was fueled by a few specific sub-asset classes and regions: relatively higher-risk growth equity and VC segments hit record fundraising levels. Fundraising for growth equity, which posted the biggest decline among PE sub-asset classes in 2020, rebounded across all major regions to reach $132 billion globally. Meanwhile, the allure of VC's potential returns continues to attract institutional capital—top-performing managers remain perpetually oversubscribed—and the strategy is now 36 percent above pre-COVID-19 fundraising levels, at $185 billion in 2021. VC fundraising was driven primarily by 31 percent growth in North American–focused funds.

Conversely, buyout, still the largest PE sub-asset class for both fundraising and AUM, had a slower recovery. Buyout fundraising grew modestly, and its $331 billion tally remains below the prepandemic peak in 2019, when a record number of $10 billion–plus megafunds were raised. The average buyout fund size in 2021 was roughly a quarter below 2019's average. Nevertheless, since 2016, buyout has had 5.8 percent annualized growth, and leading buyout players have grown primarily through the increased size of flagship funds.

PE's average fund size across strategies stands at approximately $340 million, up from approximately $210 million in 2016.[5] There were nine $10 billion funds in 2021; seven additional megafunds are currently in the market tracking for 2022 final closes.

All regions other than Asia reached new single-year fundraising records in 2021.[6] North America led the pack at $400 billion, up by nearly a quarter. Over the five-year period ending 2021, fundraising in North America grew 13.2 percent, outpacing both Europe (up 6.1 percent) and Asia (down 7.1 percent).

Asia's overall fundraising increased 19 percent year over year to reach $112 billion (despite a 22 percent decline in buyout last year). Even so, Asian PE's fundraising remained roughly half of its $215 billion peak in 2017, due in part to lower VC and growth equity fundraising and in part to general cyclicality.

Drivers of fundraising

The most successful PE firms in terms of share gain raise more capital more frequently while expanding to new product families. The average flagship fund size of the top 20 fundraising share gainers[7] more than doubled to $10.7 billion since 2016. As they expanded, they raised funds almost twice as quickly (35 months compared with 60 months) over the last five years compared with the previous five. Their product families proliferated from 1.7 to 2.3, on average.

Of the top 20 firms, almost all have dedicated teams for technology or healthcare, which speaks to the growing importance within PE of these rapidly expanding sectors and the need for specialized teams to successfully invest in them. Three-quarters

[5] Preqin.
[6] Preqin.
[7] Fundraising share gain was determined by comparing fundraising share between 2012 and 2016 and 2017 and 2021.

of the top firms have launched a growth or middle-market fund adjacent to their flagship products; roughly half are large, multiasset managers.

While all of these firms are riding the industry wave, they outpaced broader PE growth primarily by aggressively scaling flagship fundraising. Our attribution analysis shows that growth was primarily due to increased flagship fund size, which accounted for 60 percent of total growth. An additional 30 percent of total growth stemmed from more frequent flagship raises, while just 10 percent was due to the number and magnitude of non-flagship products.

The rise of growth equity

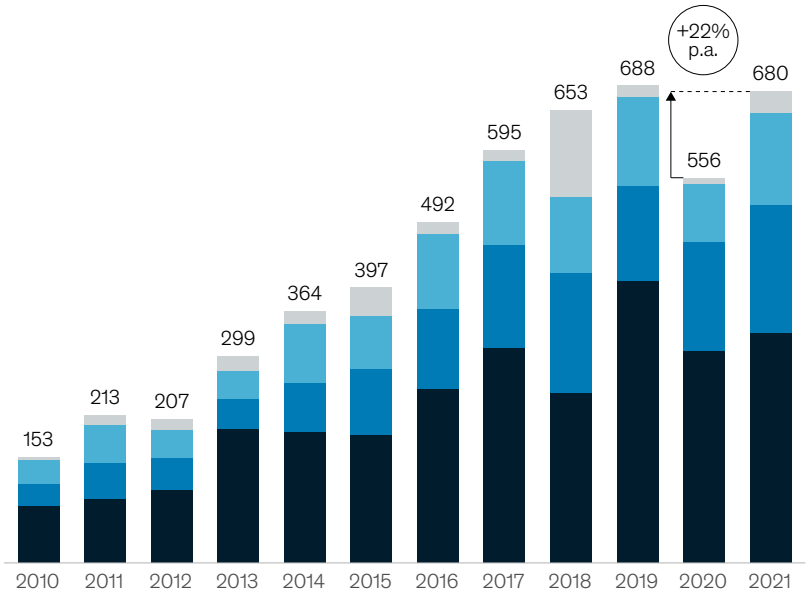
Growth equity's increased fundraising has been driven by its improving return profile, the significant capital flows into VC and subsequent expansion of the investable pool of growth companies, and the increased supply of growth vehicles, especially from established multiasset managers.

For most of the last 15 years, growth equity's returns have been weaker than those of other PE strategies. Growth yielded a median net IRR of 13.1 percent since inception for fund vintages 2008–18, compared with 18.0 percent and 23.8 percent for buyout and VC, respectively.[8] Perhaps as a result, fundraising

Exhibit 7

Growth and VC hit record fundraising levels in 2021.

Global private equity fundraising by asset subclass,[1] $ billions



	2016–21 CAGR, %	2020–21 growth, %
Total	4.1	22.4
Other PE[2]	12.1	236.1
Growth	4.2	56.6
Venture	9.8	17.8
Buyout	5.8	8.6

[1]Excludes secondaries, funds of funds, and co-investment vehicles to avoid double counting of capital fundraised.
[2]Includes turnaround PE funds and PE funds with unspecified strategy.
Source: Preqin

[8] Burgiss.

also lagged: growth equity's 9 percent annualized growth rate since 2011 trails the rest of PE's 13 percent per annum.[9] However, returns for more recent vintages have started to close the gap to VC and buyout.

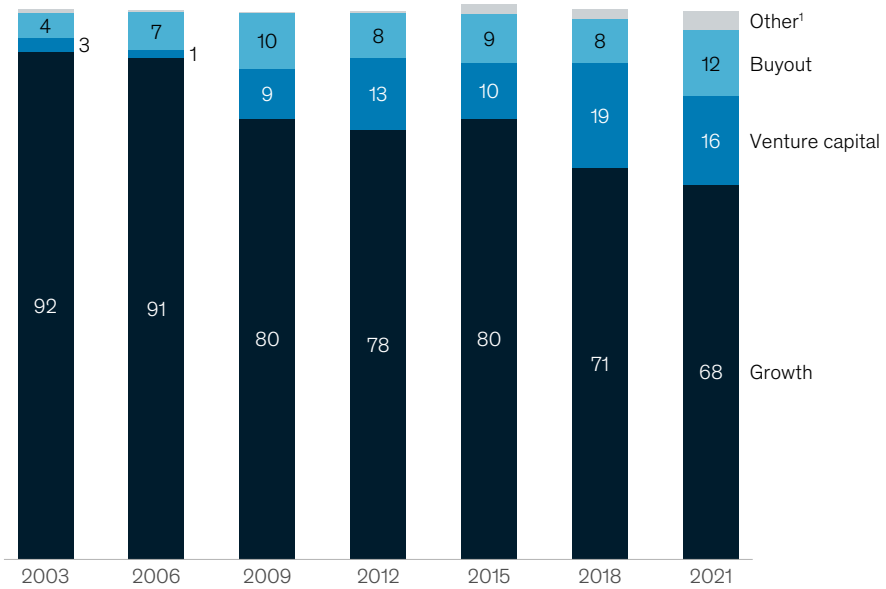
Growth equity's sequential nature to VC means that as VC has grown in an environment where firms stay private for longer, the investable universe of growth companies is likely as large as it has ever been. As discussed in last year's report, the demand for VC investments has been increasing in recent years, leading VC-focused firms to inject significant capital into early-stage companies. Opportunities are created for growth capital to bridge the funding gap between VC and buyout, as those companies mature and are held private for longer than before.

Given these dynamics, PE firms have moved into growth equity, and LPs have demonstrated willingness to commit capital. Traditionally VC- and buyout-focused firms, and especially established multiasset managers, have increased their share of growth equity fundraising (Exhibit 8). Large buyout-

Exhibit 8

Buyout and VC firms have been supplying more growth vehicles and gaining share of growth equity fundraising.

Global growth equity fundraising by manager type, 3-year trailing, %



Note: Figures may not sum precisely, because of rounding.
[1]Other includes other PE, real estate, infrastructure, and private debt.
Source: Preqin

[9] Preqin.

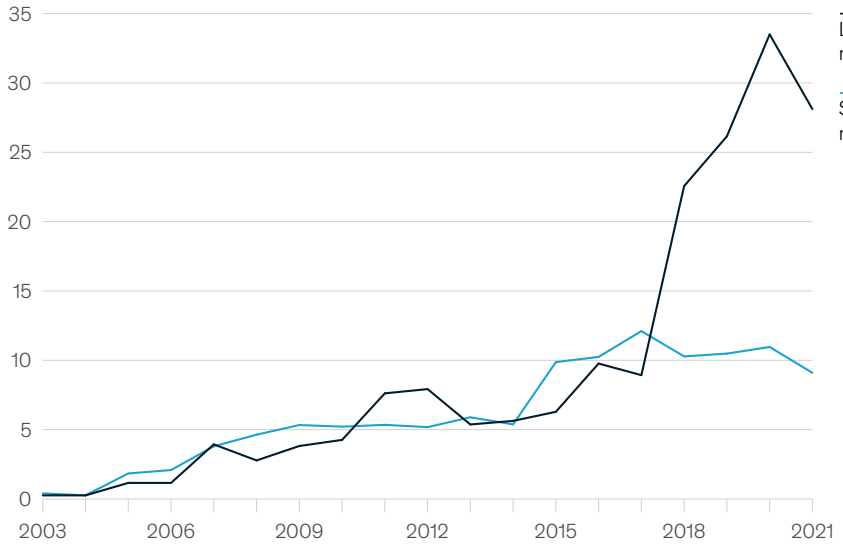
focused players are particularly active (Exhibit 9). In the last ten years, six of the ten largest buyout managers in terms of fundraising launched a new growth investment vehicle. As they continue to proliferate product offerings, growth stands out as a natural next frontier.

The geographic focus of growth equity fundraising has also shifted. In the first half of the 2010s, fundraising for Asia-focused funds drove the majority of growth in the strategy. While that was again true in 2021, when Asia posted the fastest fund-raising growth across geographies, fundraising in the region is still well below 2016–17 levels. Cyclical trends play a role: as growth equity fundraising in Asia expanded, capital deployment failed to keep pace, causing inventory on hand (capital committed but not deployed, divided by equity deal value) to increase from 1.8 to 2.6 years, which put downward pressure on fundraising.[10] Since then, inventory on hand has leveled off, indicating potential tailwinds ahead. We should note that growth in Asian fundraising is mainly attributable to China, where the boundary between growth and other PE investment is often blurry, potentially obscuring fundraising nuances.

Exhibit 9

Since 2017, growth equity fundraising by large buyout managers has expanded more than threefold.

Growth equity fundraising for large and small buyout managers,[1] trailing 3 years, $ billion



	2016–21 CAGR, %	N
Large buyout manager	19.3	21
Small buyout manager	–2.0	133

[1]Large buyout managers have raised a >$5 billion buyout fund in the period 2003–21.
Source: Preqin

[10] AVCJ, PitchBook, S&P Capital IQ.

Since 2016, growth capital shifted toward North America– and Europe-focused vehicles (Exhibit 10). Europe may represent a new frontier, as large growth players view it as an underinvested market with potential for North American–level returns. European growth equity fundraising has increased by 24 percent per annum since 2016, making Europe the fastest-growing region for the strategy.

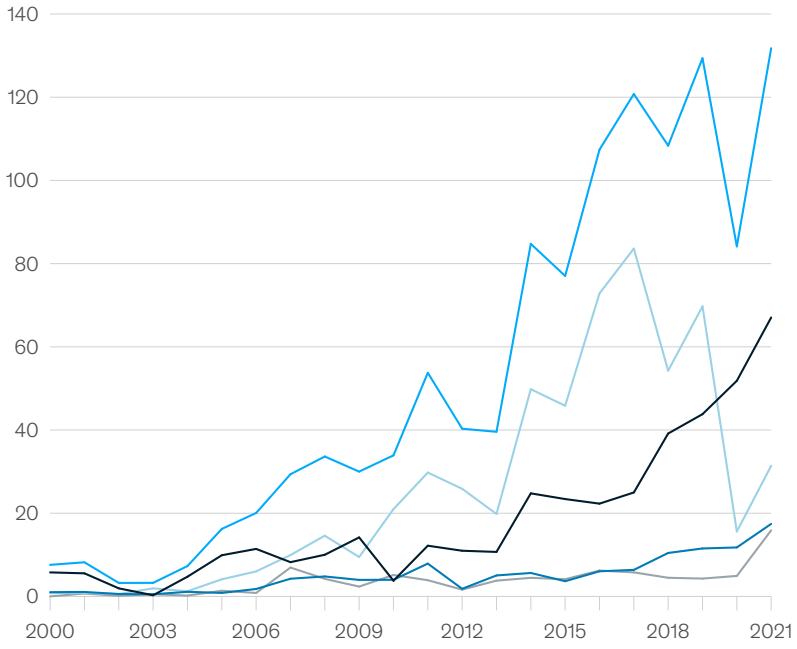
Secondaries fundraising

As anticipated, this year's PE secondary fundraising was meaningfully lower than in 2020, a year in which five of the six largest secondaries firms were in the market at the same time, each raising more than $5 billion. These five funds collectively raised $61 billion in 2020—more than the total secondaries fundraising in any other year. In 2021, a similar number of funds were in the market, but only one raised more than $5 billion.[11] Nonetheless, 2021 was the third-largest fundraising year on record (Exhibit 11). Secondaries fundraising over the last five years, at $223 billion, is 71 percent higher than the prior five-year period, and there are signs that activity will rebound in 2022: at least four funds are currently in the market targeting raises of over $10 billion.

Exhibit 10

Growth equity fundraising reached a new high in 2021.

Growth equity fundraising by region of focus, billions



	2016–21 CAGR, %	**2020–21 growth,** %
Total	4.2	56.6
North America	24.6	29.3
Asia	–15.5	101.3
Europe	23.6	48.1
Rest of world	20.6	222.6

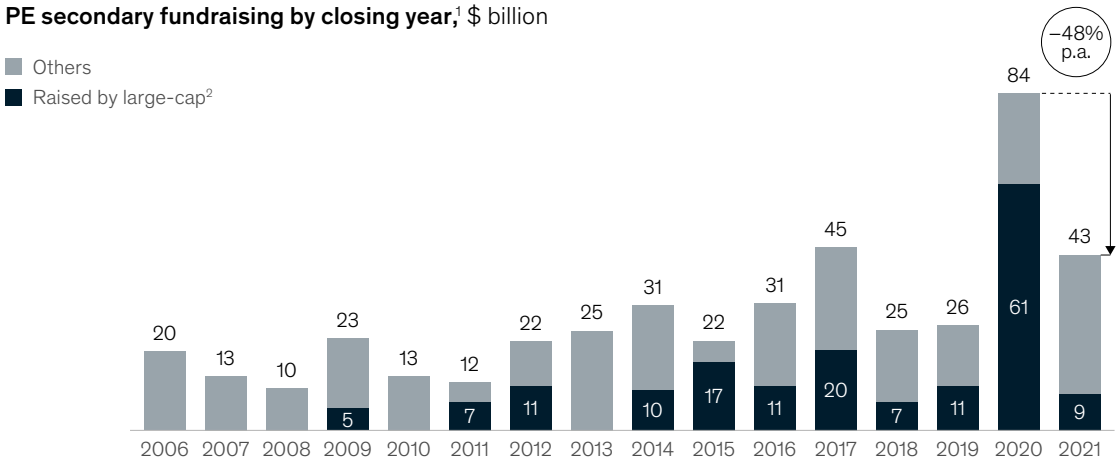
Source: Preqin

[11] Preqin.

Exhibit 11

PE secondaries fundraising declined from 2020, but 2021 was the third-largest fundraising year on record.

PE secondary fundraising by closing year,[1] $ billion



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Secondary funds closed, number	35	21	32	23	32	33	36	47	50	29	53	66	54	36	56	54
Share of top-5 funds in secondary fundraising, %	64	91	52	73	64	72	78	55	68	87	68	56	51	70	73	56

[1]Excludes real estate and infrastructure secondaries.
[2]Funds with a close size greater than $5 billion.
Source: Preqin; McKinsey analysis

A deepening and maturing secondaries market creates opportunities for both LPs and GPs. For LPs, offloading existing fund positions or portfolios of positions is increasingly strategic and opportunistic, while it was once a liquidity-driven last resort. While the volume of LP-led secondaries continues to grow, most of the growth in deal making is driven by GPs themselves in so-called GP-led transactions, which represented almost two-thirds of deals in 2021. GP-led continuation funds allow GPs to realize gains while maintaining ownership of well-performing assets at a new basis and with fresh capital. The growing utilization of continuation vehicles is trending toward its logical extreme: single-asset continuation funds represented roughly half all GP-led secondary volume in 2021, extending the longer-term trend.[12]

The average winning bid priced secondaries at roughly 90 percent of NAV in 2021, an increase after three consecutive years of declines.[13] Of course, the composition of vintage year, uncalled capital, asset class, quality of assets, and seller rationale is idiosyncratic and influences secondary pricing year to year. In 2021, buyout secondaries traded, on average, at 96 percent of NAV, while VC secondaries traded at 84 percent of NAV. A deeper and more liquid secondaries market coupled with advanced pricing tools deployed by market leaders should continue to put downward pressure on NAV discounts, all else equal, though all else is rarely equal in secondary transactions, particularly those of the GP-led variety.

[12] Hamilton Lane.
[13] Jefferies.

Despite rapid growth in the secondaries space in the last few years, considerable headroom may remain. Secondaries fundraising comprises only 1.6 percent of PE AUM in Europe and 1.2 percent in North America.[14] The Asian market is even less penetrated, with fundraising only about 0.2 percent of AUM. And while LPs' limited desire to exit positions during benign investment environments once limited the addressable supply in secondaries, the shift toward GP-led transactions, and particularly single-asset continuation vehicles, increases the addressable market many times over. Nearly any PE-owned asset is now a candidate to be funded by a secondaries GP.

As we noted a year ago, growth and evolution in the space continues to drive a war for talent in secondaries. Recognizing LP demand, many aspiring private markets firms are considering entry into the secondaries space, but both inorganic and organic entry has become increasingly challenging. The industry and talent pools are concentrated: 40 percent of capital raised in the last five years went to just five firms. Almost every formerly independent secondary firm that reached substantial scale has been acquired, and most of the top ten secondaries funds are now affiliated with large, multi-product institutions. There are relatively few senior investors with a demonstrated track record in leading secondaries transactions at scale; even fewer have orchestrated GP-led transactions. The competition extends beyond GPs: several highly regarded investment bankers serving the space have changed organizations in recent years. The secondaries market is growing quickly, and adoption of single-asset funds effectively takes the ceiling off the market. Experienced talent may be the restraining factor on future growth.

AUM

Global AUM increased by 38 percent between the second quarters of 2020 and 2021, reaching an all-time high of $6.3 trillion. VC was the fastest-

A deepening and maturing secondaries market creates opportunities for both LPs and GPs.

[14] Preqin. Based on average of the past three years.

growing strategy within PE, in terms of AUM, while buyout remained the largest PE sub-asset class (Exhibit 12).

Growth in Asia-focused PE has been a notable highlight since 2018, when its AUM first surpassed that of Europe. Today, Asia's AUM sits at $1.7 trillion, compared with Europe's $1.1 trillion (Exhibit 13).

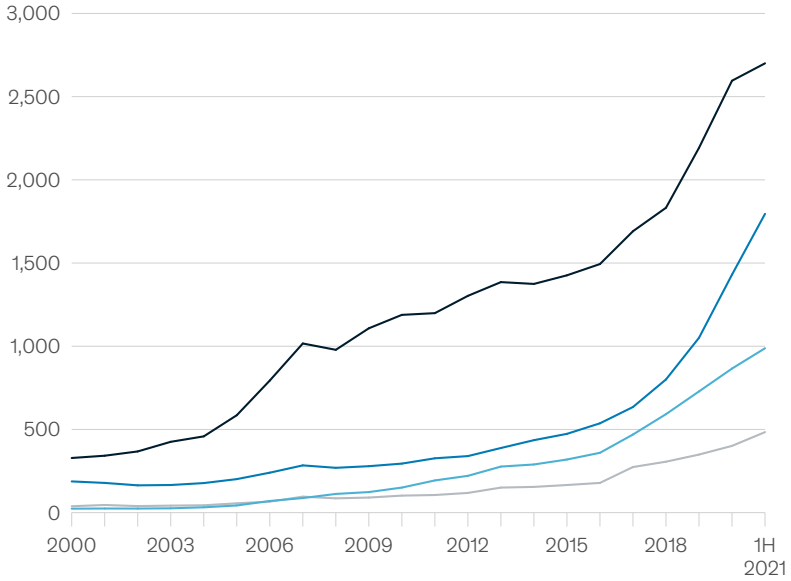
The approach to PE in Asia has differed from that in North America or Europe. Capital in Asia has typically been used to fund earlier-stage ventures with an eye to the future, rather than to structure well-established enterprises. Across Asia, VC and growth equity account for over three-quarters of PE AUM, compared with 34 percent in North America and 22 percent in Europe. Each of the two strategies makes up a larger share of global AUM for that strategy than does North America: in 2021, Asia-focused funds made up 45 percent of global AUM for VC and over half of global AUM for growth equity (see Exhibit 3 on page 8). Moreover, Asia accounts for over half of the world's unicorn valuations.

Asia's private markets mix varies based on each country's underlying economy. VC and growth equity activity is highest in India and China. China's economy is growing at double the rate of every other global economy, and firms see value in supporting the vast number of digital-native players to reach platform-level scale. In India, technology

Exhibit 12

PE AUM reached a record high in 2021.

Private equity assets under management by fund type globally,[1]
2000–1H 2021, $ billion



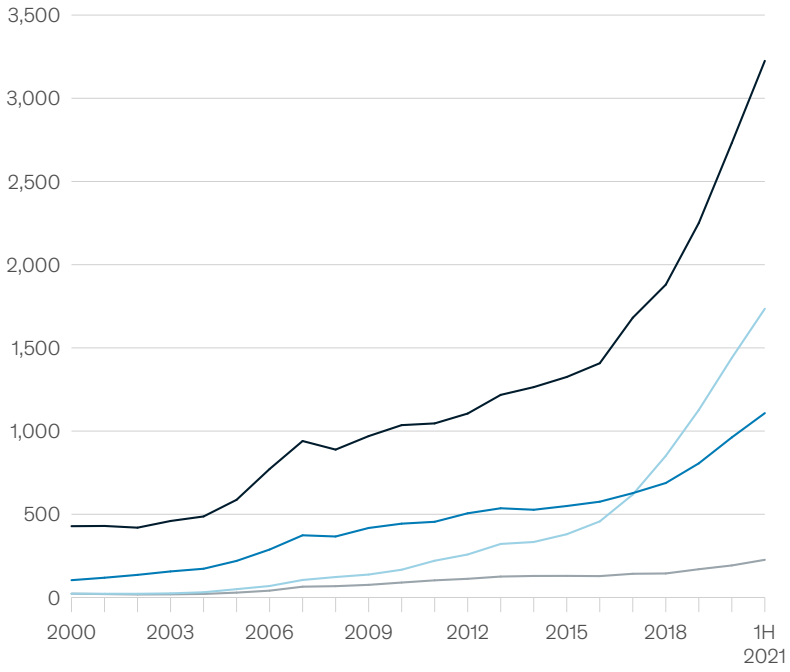
	CAGR, 2016–1H '21, %	Growth, 1H 20–1H '21, %
Buyout	16.7	31.4
Venture capital	31.3	43.4
Growth	25.2	21.0
Other	24.8	140.4

[1]AUM = dry powder + unrealized value.
Source: Preqin

Exhibit 13

PE AUM continued its impressive half-decade growth rate.

Private equity assets under management by region,[1]
2000–1H 2021, $ billion



	CAGR, 2016–1H '21, %	Growth, 1H 20–1H '21, %
North America	20.2	39.4
Asia	34.5	32.9
Europe	15.7	42.3
Rest of world	13.4	32.6

[1]AUM = dry powder + unrealized value.
Source: Preqin

services proliferate, with estimates of $300 billion to $350 billion in annual revenues by 2025.[15] Japan and South Korea have more buyout deals and transactions involving large conglomerate restructuring.

The primary driver of PE's AUM growth across regions and strategies has been the expansion in NAV. Between the second quarters of 2020 and 2021, NAV growth was predominantly due to higher valuations on unrealized assets. An increase in dry powder had a smaller impact on AUM growth. Global inventory on hand decreased from 1.7 years to 1.2 years, the first decline in that metric in several years, which was driven by 2021's record PE deal volumes (Exhibit 14).

PE NAV has grown by a factor of 14 since 2000, significantly outpacing the public market, which grew fourfold (Exhibit 15).

Performance

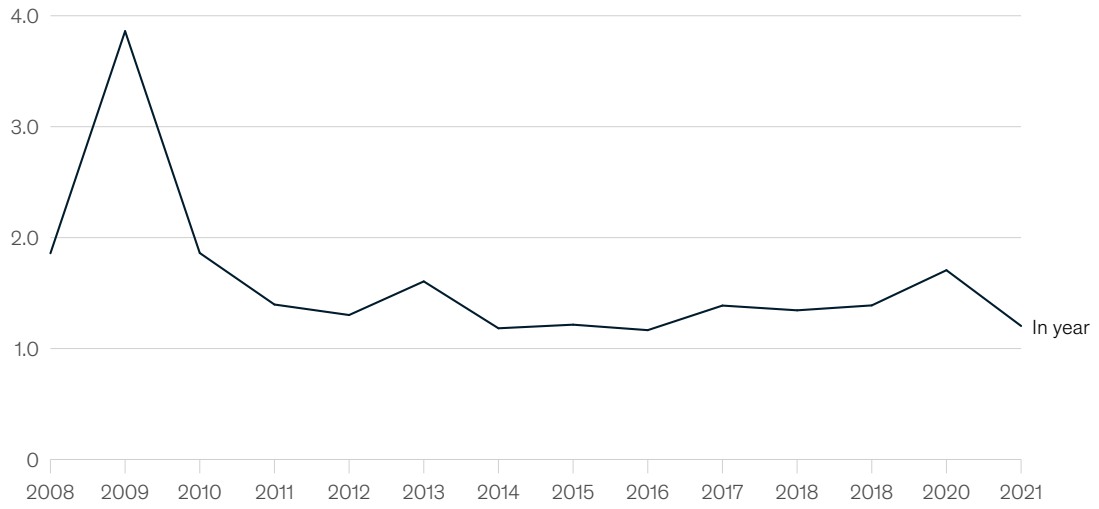
The promise of outperformance continues to make PE attractive to investors. PE fund vintages post-2008 have consistently outperformed other private markets asset classes across quartiles as well as equivalent investments in public markets.

[15] "Indian technology services expected to reach USD 300-350 bn in revenue by 2025," NASSCOM, March 31, 2021, nasscom.in.

Exhibit 14

Global inventories of PE buyout and growth dry powder decreased in 2021.

Years of private equity inventory on hand,[1] turns

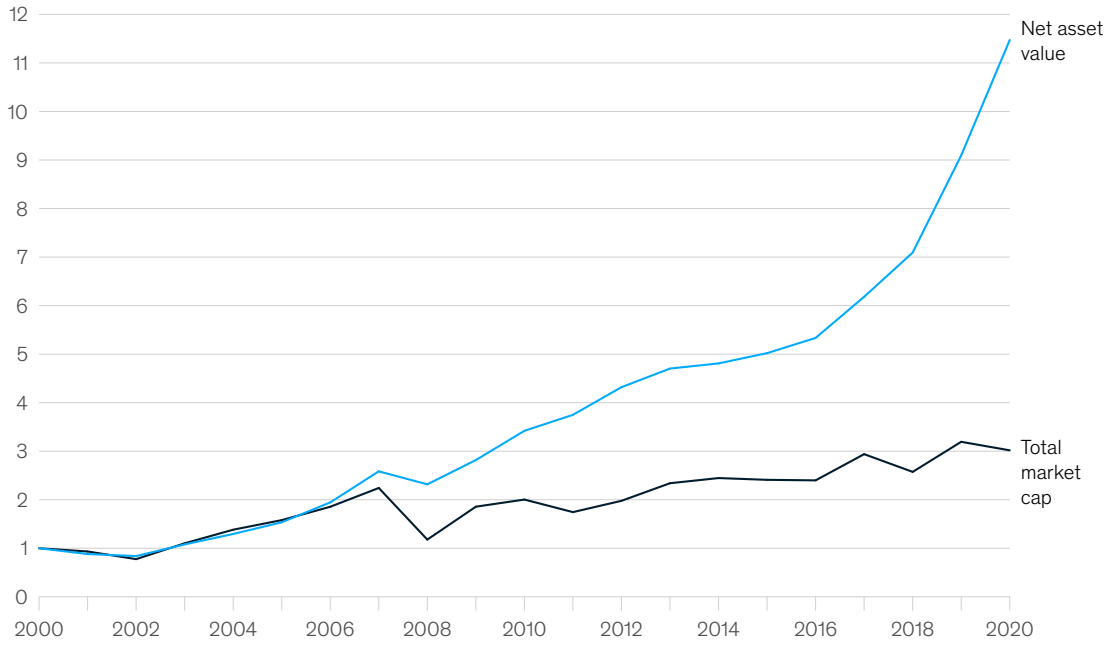


[1]Capital committed but not deployed, divided by equity deal volume. Equity deal volume estimated using transaction volume and leverage figures.
Source: PitchBook; Preqin

Exhibit 15

PE net asset value outpaced total market cap of listed companies.

Growth of global PE net asset value and market cap,[1]
indexed to 2000 value, 2000–20, %



[1]Net asset value = AUM – dry powder. Market cap is based on the total market cap of companies globally.
Source: World Federation of Exchanges; Preqin

PE returned a 27.1 percent pooled IRR in the first three quarters of 2021, slightly below the 33 percent in full-year 2020.[16] Once again, PE outperformed other private markets asset classes even as the spread between them narrowed in 2021 due to a rebound across the board. PE's outperformance extends across fund quartiles. The top-quartile PE funds have returned 30.5 percent net IRR since inception,[17] far ahead of the second-best-performing private asset class, real estate, at 16 percent. Indeed, PE's median net IRR to date of 19.5 percent is above the top quartile for all other private markets asset classes.

Additionally, PE continues to outperform its public markets equivalents. A Kaplan-Schoar PME analysis, which benchmarks PE performance against a public market index by accounting for the timing of cash flows, indicates that the median PE fund, in 2008–18 vintages, has outperformed the public market equivalent by an average of 1.17 times, on average. Only the median fund of the 2008 vintage failed to outperform public markets.[18]

Within PE, VC returns are the highest across quartiles, without a corresponding increase in downside risk. VC was the top-performing sub-asset class, on a pooled net IRR basis, in eight out of the ten most recent vintages with significant performance data (Exhibit 16). The strategy is often viewed as the most volatile of PE strategies, as reflected by its larger interquartile spread. However, its returns beat those of the other PE strategies in every quartile (Exhibit 17). Growth has the lowest dispersion between top- and bottom-performing funds, but also the lowest top-quartile returns.

PE fund vintages post-2008 have consistently outperformed other private markets asset classes as well as equivalent investments in public markets.

[16] Burgiss. Pooled IRR calculation takes all cash flows across PE vintage years and aggregates them to identify the rate of return as if all flows were in one fund.
[17] Vintages 2008–18.
[18] Burgiss. Global PE funds versus MSCI World Total Return index.

Exhibit 16

Venture capital has outperformed other PE sub-asset classes in eight out of the last ten vintage years.

Private market strategy performance comparison by vintage year, pooled net IRR since inception, 2009–18, %

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	**10-year IRR**
19.87	21.78	25.25	27.03	25.19	27.23	30.00	40.47	39.60	40.50	24.07
19.64	14.13	15.69	17.62	16.93	21.53	22.88	21.34	38.43	40.38	17.10
13.94	11.08	15.23	15.46	15.90	20.95	20.96	19.14	27.98	26.68	13.91
13.63	6.63	15.18	11.61	10.35	12.55	18.09	16.50	20.48	17.30	13.66
5.38	6.57	7.30	9.39	8.30	10.55	11.42	9.82	10.12	11.55	9.55

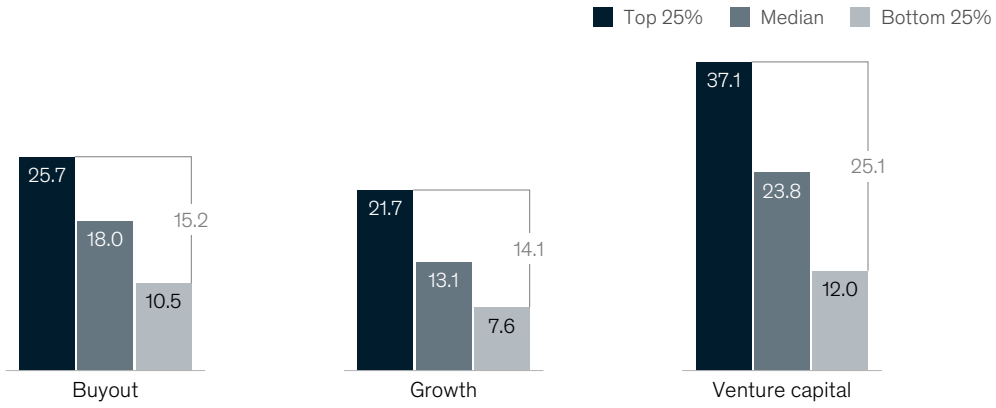
	Secondary	Infrastructure	Buyout	Growth-expansion	Venture capital
Funds, number	163	188	1,196	107	1,277
Capitalization, $ billion	229.5	324.1	1,624.4	63.3	373.0

Source: Burgiss

Exhibit 17

Venture capital returns are better across quartiles, despite a more volatile risk profile.

Global PE fund performance by strategy, net IRR to date through Sept 30, 2021, 2008–18 vintages, %



Note: Figures may not sum precisely, because of rounding.
[1]Methodology: IRR spreads calculated for funds within vintage years separately and then averaged out. Median IRR was calculated by taking the average of the median IRR for funds within each vintage year.
Source: Burgiss

Deal activity

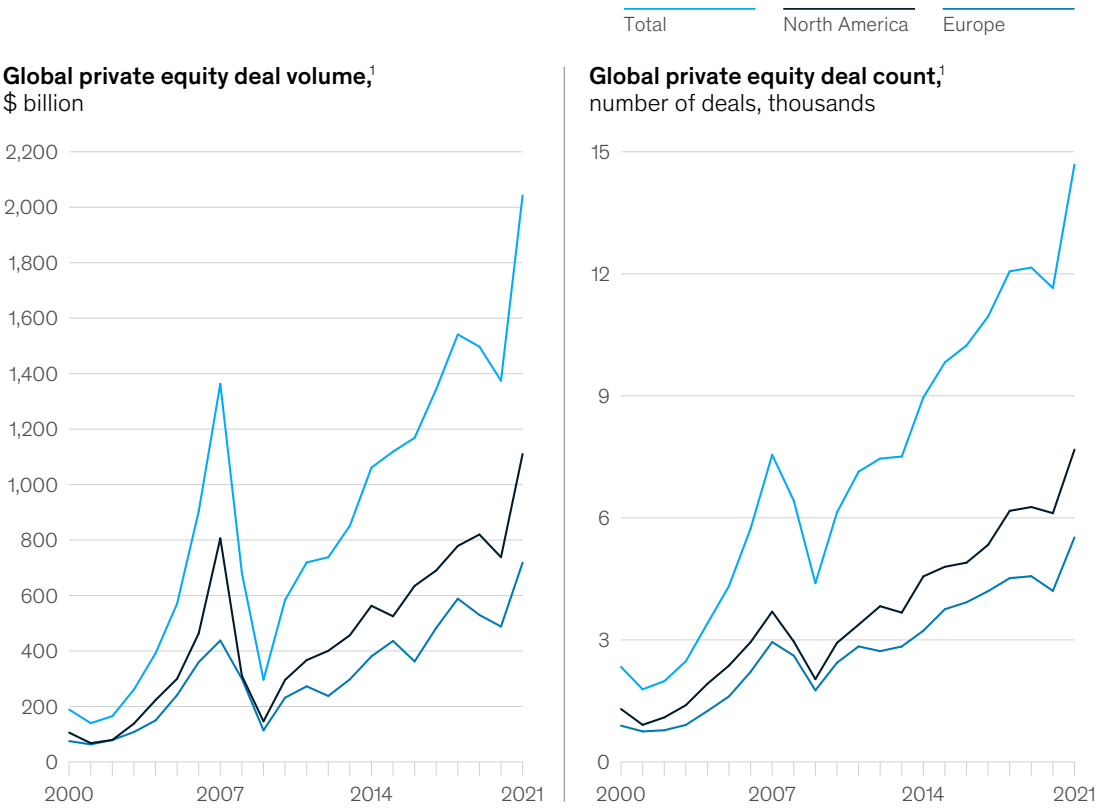
PE deal activity rebounded strongly in 2021 as investor optimism was buoyed by a sharp economic recovery, in part brought about by central-bank-sanctioned capital infusions across major economies. Deal volume was up 48.6 percent to reach $2.04 trillion globally, and the number of deals exceeded 14,000 for the first time (Exhibit 18). This surge in deal activity provided a major boost for PE, which recorded an 8.2 percent decline in deal volume in 2020, due primarily to the pandemic.

Deal volume increased across regions, with North America leading with $1.1 trillion, a 50 percent increase from 25 percent more deals. Europe had nearly as large an increase, reaching $720 billion in nearly a third more deals than 2020.

Globally, deal volume has now increased by nearly three times since 2012 and one and one-half times since 2017. With fundraising near record levels and dry powder continuing to grow (17.5 percent annualized growth since 2016), investors are deploying capital at historic rates.

Exhibit 18

PE buyout and growth equity deal volume and deal count in 2021 reached $2.04 trillion across 14,686 deals.



[1]Includes PE buyout/LBO (add-on, asset acquisition, carve-out, corporate divestiture, debt conversion, distressed acquisition, management buyout, management buy-in, privatization, recapitalization, public-to-private, secondary buyout); PE growth/expansion (recapitalization, dividend recapitalization, and leveraged recapitalization); platform creation.
Source: PitchBook

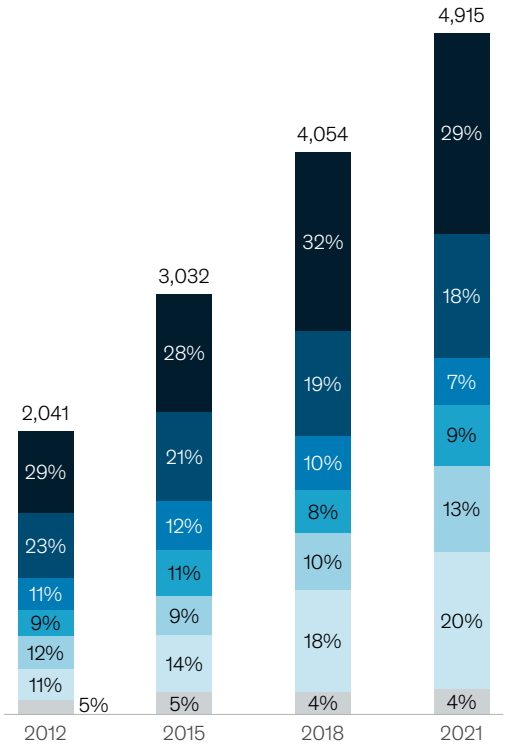
Most of this activity has taken place in B2B, B2C, and IT, which in total accounted for approximately two-thirds of global deal volume last year (Exhibit 19).[19] B2B and B2C have lost some share of global deal volume relative to ten years ago, while IT has expanded from 11 percent in 2011 to 20 percent in 2021. Healthcare is another rapidly expanding sector, with the fastest deal-volume growth globally since 2016.

PE firms further accelerated activity in IT and healthcare throughout the pandemic. The representation of these industries among 2021's largest deals underscores this activity: of the largest ten deals, four were in IT, three were healthcare, and the largest deal last year involved a manufacturer and distributor of healthcare supplies.

Exhibit 19

Healthcare and IT have been the fastest-growing sectors globally in the last five years.

Global PE deal volume by sector, trailing 3 years,[1] $ billion



	2016–21 CAGR, %	2020–21 growth, %
Total	8.0	11.4
Business products and services (B2B)	8.0	9.6
Consumer products and services (B2C)	6.0	11.7
Energy	–1.9	–5.6
Financial services	6.5	10.1
Healthcare	14.3	19.5
Information technology	13.3	17.0
Materials and resources	3.1	8.3

Note: Figures may not sum precisely, because of rounding.
[1]Includes PE buyout/LBO (add-on, asset acquisition, carve-out, corporate divestiture, debt conversion, distressed acquisition, management buyout, management buy-in, privatization, recapitalization, public-to-private, secondary buyout); PE growth/expansion (recapitalization, dividend recapitalization, and leveraged recapitalization); platform creation.
Source: PitchBook

[19] Deal volumes by sector are calculated on a trailing three-year basis to smooth the impact of year-to-year volatility.

Conversely, deal activity in traditional energy investments continued to decline, perpetuating a four-year downward trend that correlates with LPs' increasing ESG commitments.

Deal multiples and leverage

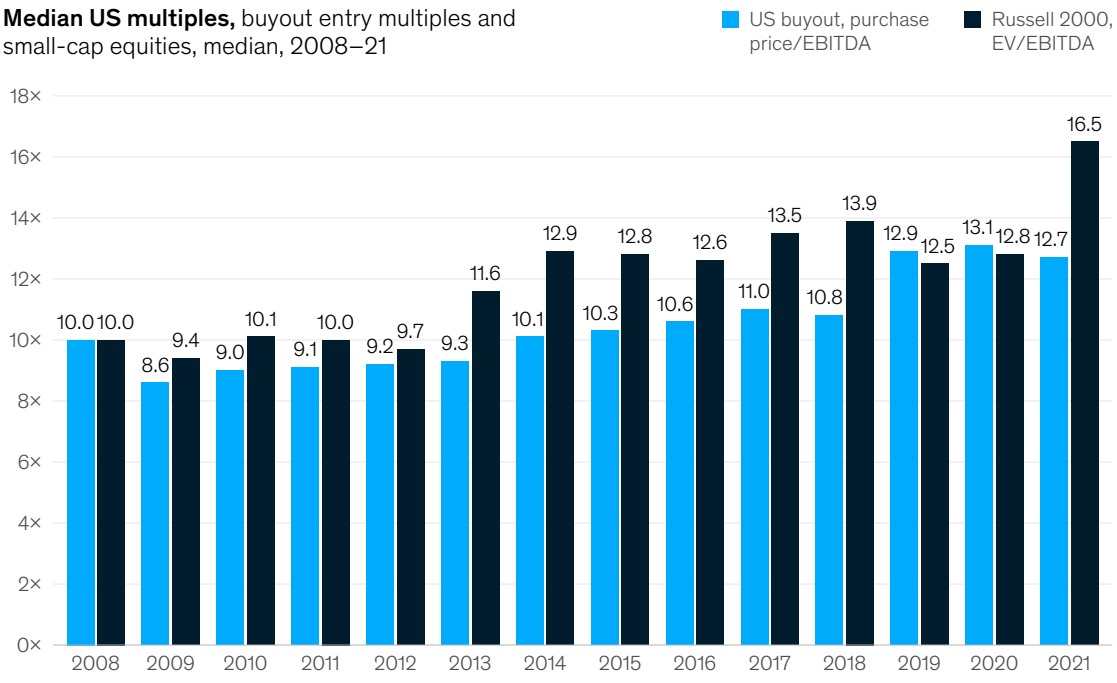
For most of the decade ended 2020, both US PE and public markets multiples expanded steadily, with valuation growth in the private markets slightly outpacing that in public markets. From 2010 to 2020, the average median entry multiple in US buyout, for example, increased from 9.0 to 13.1 times earnings before interest, taxes, depreciation, and amortization (EBITDA). This meant that an investor in 2020 paid over 30 percent more to acquire the same EBITDA as they would have a decade prior.

In 2021, however, buyout multiples compressed slightly, even as public multiples surged (Exhibit 20). This trend may be partially attributable to a mix shift in deal activity in 2020 and 2021. Activity in 2020

Exhibit 20

US buyout multiple growth has leveled off.

Median US multiples, buyout entry multiples and small-cap equities, median, 2008–21

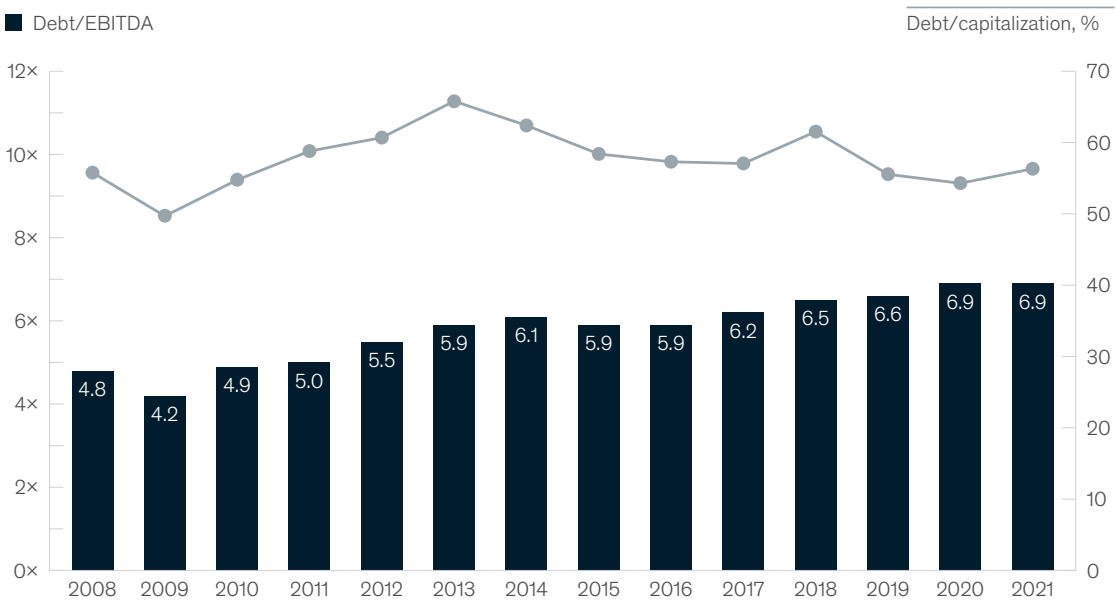


Source: Refinitiv, S&P Capital IQ

Exhibit 21

US buyout leverage remained at nearly seven times in 2021.

US leverage metrics, 2008–21



Source: Refinitiv

was concentrated in higher-multiple sectors, such as technology, that were relatively unaffected by (and, in many cases, benefited from) the pandemic. In 2021, conversely, there was a backlog of deals completed in lower-multiple sectors, such as manufacturing, which sellers had been reluctant to exit at trough valuations a year earlier.

Debt remained cheap in 2021, and GPs continued to take advantage of it. While leverage did not rise further, it remained elevated at roughly seven times EBITDA (Exhibit 21). US buyout firms continue to utilize debt for approximately 55 percent of a deal's purchase price, on average.

3 Real estate rebuilds

Brick by brick, private real estate rebounded after a sharp decline in fundraising, deal making, and valuations in 2020. During the first and second waves of the pandemic, uncertainty about where and how we will live, work, and shop in a postpandemic world slowed activity.

With a semblance of clarity in 2021, investors returned to the asset class and activity accelerated. Real estate deal volume and AUM reached new heights in 2021, buoyed by the second-highest-ever fundraising year. Opportunistic and value-add fundraising grew sharply in North America as investors rotated capital toward higher-risk strategies, perhaps hoping to take advantage of dislocation and distress that did not materialize at the scale that many market participants anticipated in the early days of the pandemic. Open-end core and core-plus funds, despite solid performance in 2021, experienced net outflows that reversed a long-term trend.

Closed-end funds globally returned 12.2 percent in the first three quarters of 2021, a welcome rebound for investors after a loss of 0.1 percent in 2020. Scale continues to create performance advantages for real estate investors: the largest funds outperformed smaller counterparts. However, we did not see evidence of investors flocking to the largest managers during the pandemic.

In the US, the largest real estate market, COVID-19 sparked fears of urban flight, but it happened less than some anticipated. Hybrid rather than fully remote work seems to be the majority position, which will likely keep employees living within commutable ranges. Omnichannel retail—a trend long in the making—has now fully taken hold. Multifamily and industrial continue booming. Office and retail aren't dead, though much work remains to reimagine working models and spaces for the postpandemic experience.

Closed-end funds

Fundraising

Rebounding from a three-year low the year before, fundraising in closed-end real estate vehicles rose 17.7 percent year over year to $175 billion, the second-highest year on record and close to the all-time high of $199 billion in 2019.[20] North American funds and opportunistic strategies drove the rebound.

Fundraising results differed meaningfully across regions, however. North America was up 48.0 percent year over year to $120 billion, almost reaching the prepandemic high. Asia rebounded to $20 billion after two consecutive years of decline, a 4.8 percent increase year over year (though well below the 2018 high). Closed-end fundraising in Europe fell by nearly a third to $28 billion, the lowest since 2012 and a precipitous 51.6 percent decline relative to the high-water mark of $58 billion reached in 2017. Fundraising in the region has now fallen three times in the last four years.

Fundraising shifted to riskier strategies in 2021, driven in part by anticipation of distress—an expectation that did not fully materialize.

[20] Preqin.

Fundraising shifted to riskier strategies in 2021, driven in part by anticipation of distress—an expectation that did not fully materialize. Opportunistic fundraising grew 56.8 percent year over year after a substantial decline in 2020 (Exhibit 22). The global haul was driven by North American opportunistic fundraising, up 177.3 percent from last year. In Europe, conversely, opportunistic fundraising fell 80.7 percent. It bears noting that year-to-year opportunistic fundraising is inherently volatile, given the idiosyncrasy of the largest players' vintage timing; globally, there has been a direction change in growth every year since 2018.

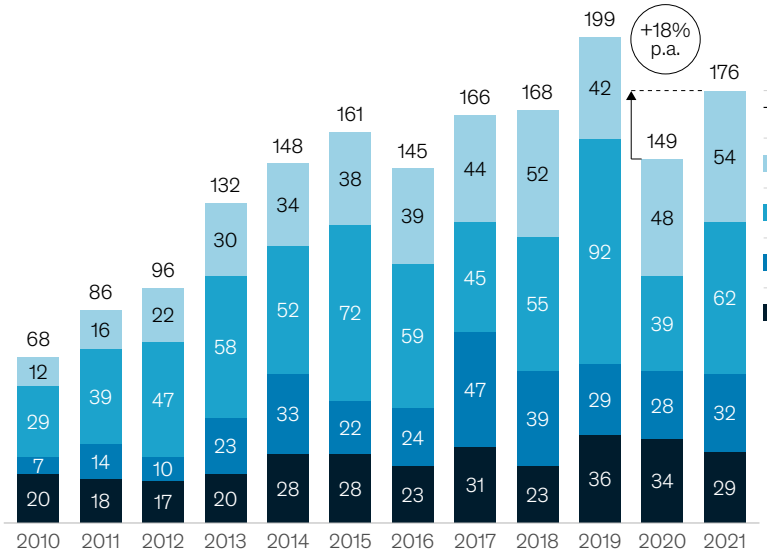
Hitting a new high of $53 billion, value-add fundraising grew for a second consecutive year and for the tenth time in the last 11 years (a remarkably consistent trend). Debt fundraising grew after three consecutive years of decline. On the other hand, closed-end core and core-plus fundraising, comprising a minority of dollars at work in core (more below on open-end fundraising), declined.

Recent inflation and investors' fear of continued inflation could provide a new tailwind for real estate fundraising, or at least a different reason for allocating to the asset class. In recent years, LPs have sometimes thought of real estate as a fixed-income-like asset class with stable cash flows and higher yields than traditional fixed-income instruments. But if the recent surge in prices persists, real estate may well shift back to playing

Exhibit 22

Closed-end real estate fundraising rebounded in 2021, with opportunistic funds growing fastest.

Global closed-end real estate fundraising by asset subclass,[1]
$ billions



	2016–21 CAGR, %	2020–21 growth, %
Total	3.3	17.7
Value added	6.6	12.0
Opportunistic[2]	1.0	56.8
Debt	5.9	12.3
Core, core plus[3]	4.5	–15.3

Note: Figures may not sum precisely, because of rounding.
[1]Secondaries and funds of funds are excluded to avoid double counting of capital fundraised.
[2]Includes real estate distressed.
[3]Includes real estate core, core plus.
Source: Preqin

the inflation hedging role it once did in investors' portfolios prior to the GFC. Research suggests that as a hedge against inflation, real estate has performed as well as, or better than, other inflation-sensitive assets such as Treasury inflation-protected securities (TIPS) or gold.[21]

Returns

Returns in global closed-end real estate funds rebounded across regions after an underwhelming performance in 2020. Pooled net IRR for real estate funds in the first three quarters of 2021 stood at 12.2 percent, the best performance since 2016 and a marked improvement on the 0.1 percent return in 2020.[22]

In the longer term, real estate has provided remarkably consistent returns for investors. Every vintage from 2009 to 2018 has produced a pooled net IRR since inception between 9.3 percent and 13.0 percent. The median net IRR to date for real estate funds stands at 10.7 percent, higher than all other private asset classes except PE.

Open-end funds

For open-end real estate funds, the big-picture story in 2021 is one of growth, albeit with larger-than-typical outflows in a year in which investors showed increased appetite for risk.

Total NAV of the funds included in the National Council of Real Estate Investment Fiduciaries Open-End Equity (NFI-OE) Index—which tracks the majority of scaled core and core-plus vehicles in the US—reached $312 billion as of September 30, 2021, up 16.8 percent from $267 billion the year prior.[23] Fund performance improved in 2021, with NFI-OE funds returning 17.2 percent on a gross basis in the trailing 12 months through September 2021, compared with 2.3 percent over the prior 12-month period.

Interestingly, public real estate investment trust (REIT) returns improved even more: the Nareit All Equity REITs index returned 31.5 percent in the same period.[24] Yet, taking 2019 as a base, public REITs have produced slightly lower two-year returns, as strong returns in 2021 did not fully make up for a 5.1 percent decline in 2020. The variance is a reminder of public-market volatility; as we noted in our report last year, public markets occasionally disconnect trading marks from NAV.

Despite solid performance in open-end funds in 2021, distributions and redemptions exceeded inflows, a phenomenon that began with the pandemic's onset. Gross contributions to open-end funds increased 13.1 percent in the trailing 12 months through September 2021. However, distributions and redemptions increased 34.5 percent, resulting in a net outflow of $3.5 billion (or 1.3 percent of starting NAV). A long-term trend has reversed: contributions to US core and core-plus vehicles had exceeded distributions and redemptions in every year from 2010 to 2019 and through the first quarter of 2020. Whether this departure from the long-term trend reflects a shift to opportunistic vehicles or simply tactical allocations by limited partners taking advantage of dislocation is a question GP strategy teams will follow closely.

AUM

Total global real estate AUM in closed-end funds grew to a new record high of $1.2 trillion.[25] The 14.7 percent year-over-year increase was primarily driven by higher-risk strategies, though with some regional variation.

AUM grew fastest in North America, increasing 15.4 percent, outpacing the annualized average since 2016 by nearly five percentage points. Higher NAV, which increased by $90 billion, accounted for over 90 percent of AUM growth in the region. In

[21] For real estate as an inflation hedge, see Brad Case and Susan M. Wachter, "Inflation and real estate investments," working paper 716, The Wharton School, University of Pennsylvania.
[22] Burgiss.
[23] National Council of Real Estate Investment Fiduciaries Open-End Equity (NFI-OE).
[24] FTSE Nareit All Equity REITs (FNER) index, Nareit.
[25] As of the 12 months ending June 30, 2021. Preqin.

Asia, AUM growth similarly outpaced the historical rate, rising 13 percent. Unlike in North America, core funds were responsible for the largest share of growth. By contrast, AUM growth in Europe slowed to 10.8 percent due to lackluster fundraising, down 2.5 percentage points from the annualized average since 2016.

Limited consolidation but benefits of scale

As with seemingly every downturn, investors expected there would be a "flight to quality" (however ambiguous that concept may be) when the pandemic spiked uncertainty. If that flight happened, it's highly nuanced in the fundraising data, presuming its expression in real estate refers to some combination of managers with a well-established brand and track record or highly occupied trophy assets. What actually occurred was that money flowing to the ten largest fundraisers fell to a ten-year low (Exhibit 23). Dollars going to the top five fell even more sharply. Oft-discussed predictions of consolidation within the asset class are not playing out at the top—or haven't yet. Admittedly, this analysis ignores open-end institutional capital vehicles and private REITs, where a few managers in the top ten have raised large pools.

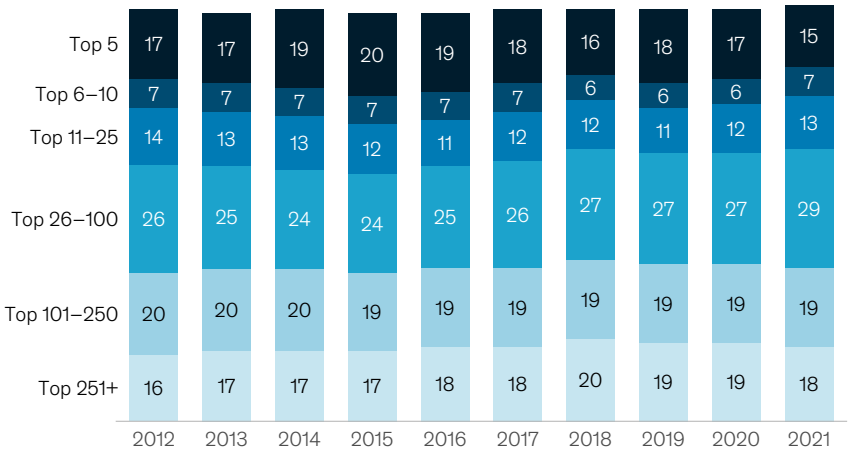
Moreover, investors shifted allocations from core and core-plus vehicles—the traditional homes of fully leased class A properties—to opportunistic vehicles, many of which seek to buy underperforming assets. However, while it is difficult to find evidence of a flight to quality among investment dollars to date, high-quality spaces and experiences are even more important to tenants today (such as helping office occupiers compete for talent).

While the predicted flight of capital may not have come to pass and there is little evidence of growing concentration at the very top of the industry, widespread consolidation may be under way. The number of closed-end funds raised each year grew continuously from a GFC-driven trough in 2009 to a peak of 605 funds in 2018, but the total has declined in each of the last three years. In 2021, just 366 funds closed, the lowest such total

Exhibit 23

In closed-end RE, fundraising by top firms declined further.

Fundraising by manager size, trailing 5 years, %



Source: Preqin

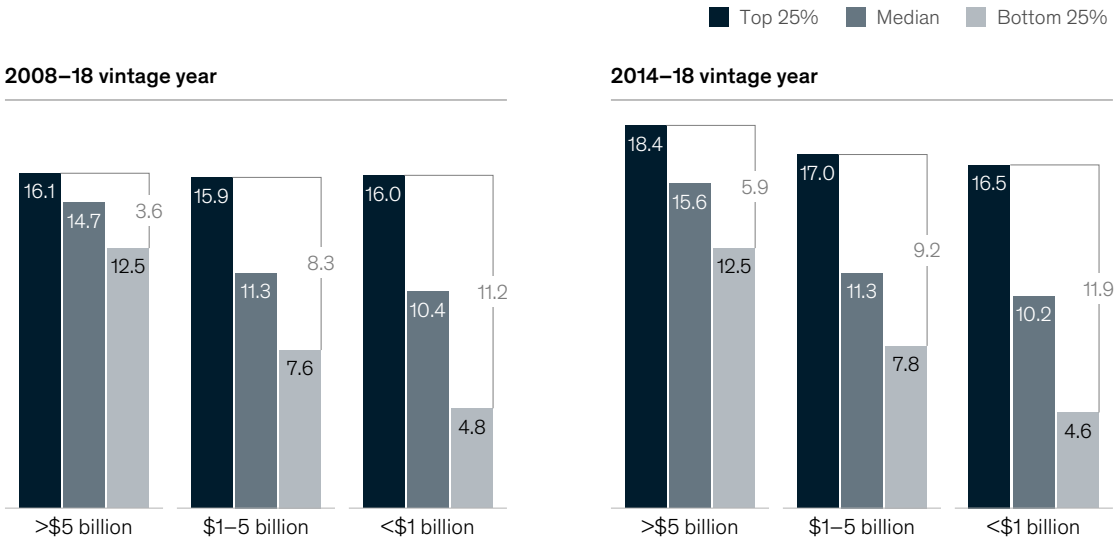
in a decade, and the number of new managers to enter the space was the lowest since 2015 (after all, it's difficult to launch a firm during a pandemic). At the same time, average fund size has grown to $587 million, a 15-year high. In total, smaller funds' (less than $500 million) share of fundraising has more than halved since 2016, while the share of funds greater than $1 billion increased from 39.5 percent to 61.1 percent in the same period.

Fewer and larger funds may be good news for investors, because in real estate, scale matters and the largest players outperform. Further, the gap between first-quartile funds and fourth-quartile funds in the largest funds is relatively narrow, suggesting lower risk in manager selection (Exhibit 24). The advantages of scale are easy to understand and may be exacerbated in future years: large real estate players use their scale to attract talent, acquire complex portfolios, tie up operators in systematic joint ventures (or buy operating companies wholesale), and invest in digital infrastructure that creates efficiency and insight. Scale may be among the most sustainable advantages in the asset class, and recent trends seem likely to continue if return patterns persist.

Exhibit 24

Outperformance of large real estate funds has increased in recent vintages.

Global real estate fund median IRR and percentile spreads by fund size,
net IRR to date through Sept 30, 2021



[1]Methodology: IRR spreads calculated for funds within vintage years separately and then averaged out. Median IRR was calculated by taking the average of the median IRR for funds within each vintage year.
Source: Burgiss

Deal volume

Global real estate deal volume reached an all-time high of over $1.3 trillion in 2021, after a dramatic slowdown in 2020, when markets effectively stopped transacting in the second quarter (Exhibit 25). The fourth quarter in 2021, when $498 billion of real estate changed hands, was the most active on record.[26] Deal volume was highest in the Americas, a record of $775 billion, largely due to activity within the US.

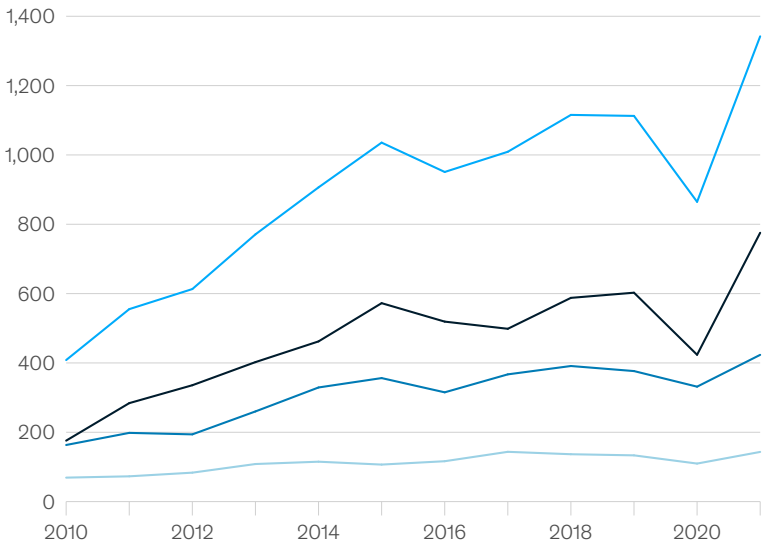
Deal activity in Asia–Pacific rebounded by 30.6 percent in 2021, to reach $143 billion. Combined deal volume in Tokyo and Seoul contributed nearly half of the region's total volume.

Reversing a two-year decline, real estate deal volume in EMEA grew by 27.7 percent in 2021, with a third of total yearly transaction value occurring in the last quarter.

Exhibit 25

In 2021, deal volume rebounded in all regions, with Americas leading the pack.

Global real estate deal volume,[1] $ billion



	2016–21 CAGR, %	2020–21 CAGR, %
Total	7.1	55.2
Americas	8.4	83.1
EMEA	6.1	27.7
APAC	4.2	30.6

[1]Excludes residential.
Source: CBRE; RCA

[26] CBRE, RCA.

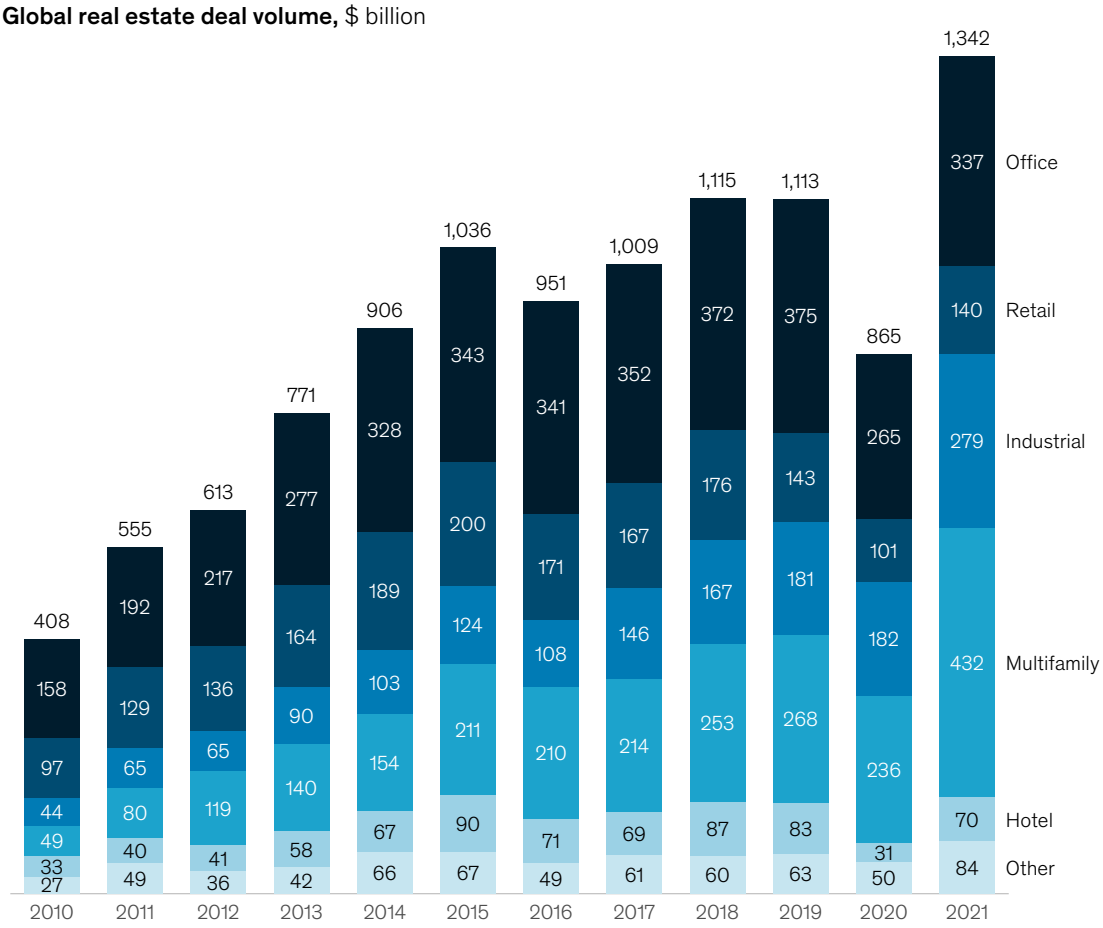
Deal activity asset class variation

Globally, deal activity increased across asset classes and reached record-breaking totals in both multifamily and industrial, which contributed more than half of total transaction value (Exhibit 26). Growth within these two sectors spiked by 82.8 percent within multifamily and 53.8 percent within industrials, as pandemic-driven tailwinds became apparent to investors. Industrial deal volume grew for the fifth consecutive year, a trend driven by the longer-term shift toward omnichannel retail.

Exhibit 26

Global deal volume increased in every real estate sector, rebounding from widespread pandemic lows.

Global real estate deal volume, $ billion

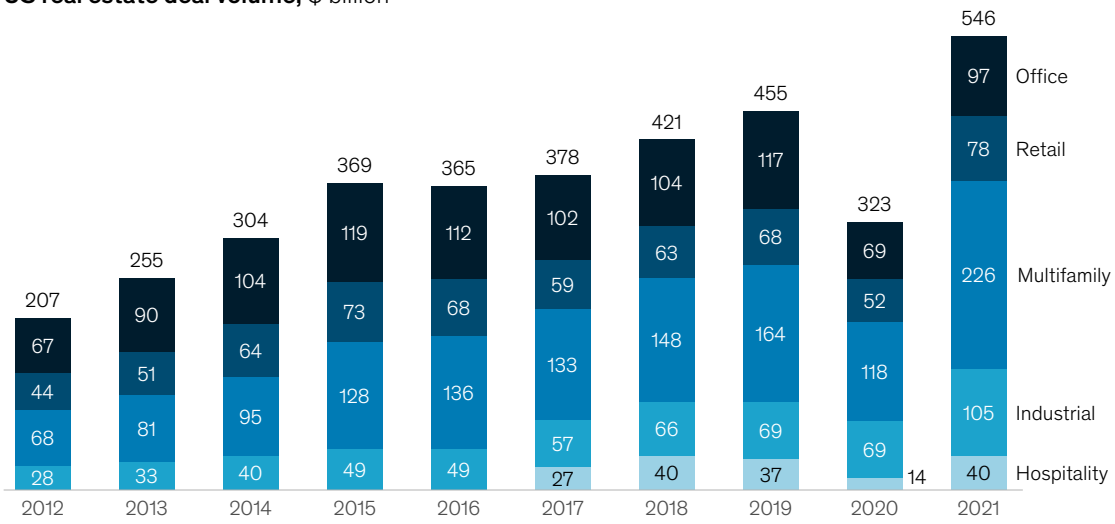


Source: CBRE

Exhibit 27

US deal volume reached an all-time high in 2021.

US real estate deal volume, $ billion



Source: CoStar

US markets by asset class

In the United States, multifamily deal volume increased 91.3 percent in 2021 (Exhibit 27), reversing a significant decline in 2020. Acquisition activity drove deal volume growth; new development has remained consistent at around 4 percent of all US multifamily inventory in each year.

Deal volume in US industrial real estate increased 51.1 percent after a resilient 2020, due to reliance on supply-chain operations for e-commerce. However, unlike multifamily, activity in the industrial sector was focused on development.[27] New warehouses and distribution centers are required for the transition to omnichannel retail, and growth in square feet under construction outpaced growth of inventory. Net absorption was exceptionally strong, increasing 81 percent year over year, with 406 million square feet absorbed in 2021. Vacancy rates dropped below 4 percent for the first time ever, even as rents increased 11.3 percent year over year.[28]

The US retail sector showed strong signs of recovery: deal volume in 2021 reached a record high of $78 billion, representing 50.0 percent growth over 2020.[29] A combination of pent-up demand and stimulus money drove consumers to shop, and retail foot traffic at the end of 2021 exceeded pre-COVID-19 levels (suburban open-air properties benefited the most, while urban malls have continued to struggle in terms of footfall).[30] The retail recovery was reflected in demand for space: asking rents rose 3.0 percent year over year, net absorption increased to 106 million square feet, and vacancy rates neared prepandemic levels of 4.6 percent by the fourth quarter of 2021.[31]

[27] CoStar.
[28] JLL.
[29] CoStar.
[30] Sarah Kern, "Retail foot traffic rises above pre-COVID levels," JLL, December 6, 2021.
[31] CoStar.

The pandemic has not led to the universal demise of urban cores. These areas remain magnets for highly educated talent and therefore remain attractive for the country's largest and most innovative employers.

US office sector deal volume rebounded off a 2020 low but was the second lowest on record since 2014. Older office buildings, which may not meet the needs of today's hybrid workforces, have suffered: JLL reports office properties built in 2014 or before had a collective negative 199 million square feet of absorption, while absorption of office properties in the United States built after 2014 totaled a positive 51 million square feet over the seven quarters ending December 31, 2021.

Spotlight on US multifamily

Performance of US multifamily real estate was impressive in 2021: yearly deal volume grew 91.5 percent (a ten-year high), and cap rates fell to 5.2 percent (the lowest since at least 2000).[32] Moreover, rents rose 13.5 percent last year, the equivalent of $190 a month.[33] That may be good for owners and investors, but housing affordability continues to be a challenge, and many anticipate that rents will continue rising due to a disconnect between supply and demand. Along with higher rents, the median sales price of existing single-family homes rose 15.8 percent, to $358,000, from December 2020 to December 2021.[34] With home price increases outpacing income growth nationwide, the price-to-income ratio has reached a 15-year high of 4.4.[35] In fact, half of renters and a fifth of owners spent more than 30 percent of income on housing as of 2019; recent price dynamics have only exacerbated this problem.

Rent increases were most substantial in the Sunbelt states.[36] To a large extent, these reflect pre-COVID-19 trends of population growth in Sunbelt states, driven by employers shifting head count to inland metropolitan statistical areas with lower cost of living and boomers heading south and southwest for warmer climates. For example, no large city grew faster than Phoenix between 2010 and 2020, and the Villages, a retirement community in Florida, was the fastest-growing metro area in the United States over the same time period.

The pandemic has modestly accelerated some of these trends, but it has not led to the universal demise of urban cores. These areas remain magnets for highly educated talent and therefore remain attractive for the country's largest and most innovative employers. Within urban cores, there are a variety of drivers that influence net population shifts. New York City, for example, added 629,000 people over the decade, defying predictions

[32] Ibid.
[33] Yardi Matrix.
[34] National Association of Realtors.
[35] *The state of the nation's housing 2021*, Joint Center for Housing Studies of Harvard University, 2021.
[36] Green Street and Yardi Matrix.

that affordability-driven outmigration and pandemic exodus would swamp inflows.[37] By September 2021, rent in New York City had climbed (and remains) above prepandemic levels.[38] San Francisco, on the other hand, is more exposed to dynamics that present headwinds for urban cores in the post-pandemic economy, including tech roles that can be performed remotely, limited mass transit, and a reverse commute for much of its highly educated workforce. San Francisco's rents, as a result, remain well below prepandemic levels.

Spotlight on US property technology

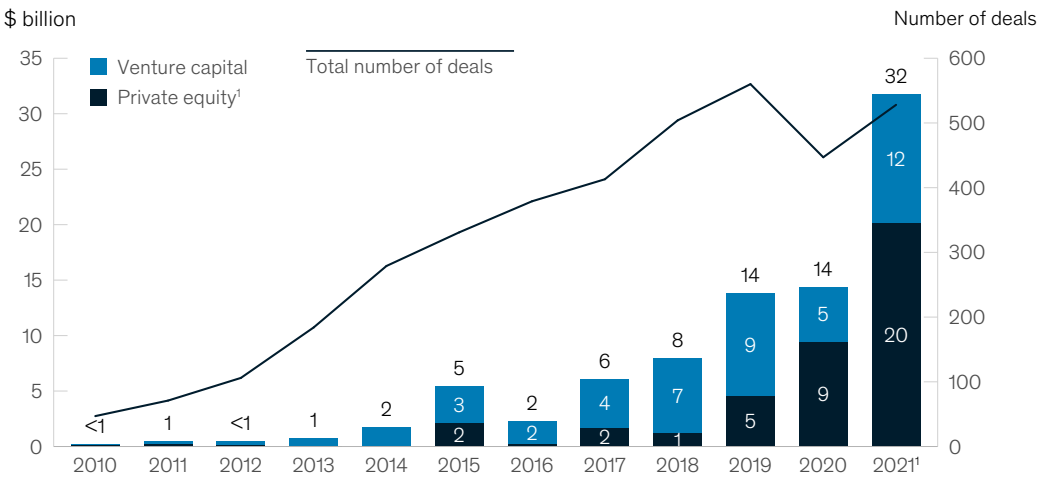
Growing excitement for property technology (proptech) accelerated deal volume massively in 2021. VC and PE firms invested $32 billion in the sector, more than the combined total of the prior two years (Exhibit 28).

As companies within the industry mature, more capital is being deployed at later stages. PE firms are entering the space through both growth equity and leveraged buyouts. Although more than

Exhibit 28

Real estate tech deal volume reached an all-time high in 2021 for both PE and VC investors

US real estate technology deal volume 2010–21[1]



[1]Includes management buyout, management buy-in, add-on, secondary buyout, public to private, growth/expansion, PIPE.
Source: PitchBook, as of Nov 2021

[37] US Census Bureau.
[38] Zumper.

80 percent of this growth in 2021 was driven by two large acquisitions, there are signs that large acquisitions could continue.[39] The number of PE firms assessing opportunities or thinking about proptech within their software or business-services verticals has expanded rapidly in recent years, suggesting a ready capital base for growth-stage and established companies alike. With an influx of new capital, proptech incumbents and early movers are growing rapidly through acquisitions of competitors and adjacent businesses.

Exits are also promising. While in the last decade IPO deal volume for proptechs never surpassed $2 billion, IPOs in the last two years surpassed $19 billion. In particular, proptech has been a popular target for SPACs (or special-purpose acquisition companies), which accounted for roughly 40 percent of IPO deal volume in 2020.

Investor excitement coincides with rapid technology adoption among real estate owners and operators. Several key trends support further demand:

— Commercial real estate owners and operators are embedding technology throughout their operations in order to manage day-to-day workflows, market properties, search for deals, and collect rent payments.

— Tenants and end users are demanding digital experiences to search for properties, sign leases, and interact with management.

— Investors and operators are announcing ESG commitments and sustainability missions, which are likely to spur adoption of clean and green tech within properties (for example, climate analytics to understand the best sources of value in making brown-to-green transitions or to correctly value a property in light of climate risk).

— Technology is enabling new ways of transacting (for example, the rise of iBuying, fractional purchases, and flexible residential leases).

[39] PitchBook.

4 Private debt extends again

Private debt set another fundraising record in 2021, marking its tenth consecutive year of growth (Exhibit 29). The asset class had no trough from which to rebound in 2021: it is the only private markets asset class to have grown fundraising in 2020. Whereas PE fundraising declined by nearly 20 percent, private debt fundraising *grew* by about 20 percent from 2019 to 2020.[40]

Debt's performance throughout the pandemic is perhaps to be expected, as debt securities are senior in the capital stack to equity and therefore less susceptible to moderate changes in the valuation environment. That reality has played out in the asset class's return profile: performance of private debt funds shows the tightest distribution of any private asset class by a factor of at least two.

The diversity of strategies within private debt also helps explain its consistent growth. Some, such as distressed and special situations strategies, have countercyclical qualities, while others, such as direct lending, are more expansionary.

[40] Fundraising data at the time of publication of our 2020 report did not reflect this increase. At the time, available data suggested a year-over-year decline in private debt fundraising of approximately 7 percent.

Viewed through this lens, 2021 was a year in which private debt investors rotated to more growth-oriented investment strategies. Fundraising for direct lending surged by 65 percent, resuming its rapid prepandemic growth trajectory. Every other substrategy declined in 2021, though not dramatically so. Distressed fundraising remained near historical highs, suggesting that some investors may be skeptical that the economy has fully regained its footing.

Across substrategies, private debt managers are seeking to differentiate themselves through increased scale and capital flexibility. More private debt megafunds were raised in the last two years than ever before, and it is becoming increasingly difficult to classify funds along traditional substrategy lines. Scale and flexibility enhance a lender's ability to offer prospective borrowers an array of customized financing "solutions," rather than prepackaged debt "products." In so doing, leading lenders are able to deepen their relationships with borrowers, structure investments with unique risk/return parameters, and increase the rate at which they deploy capital.

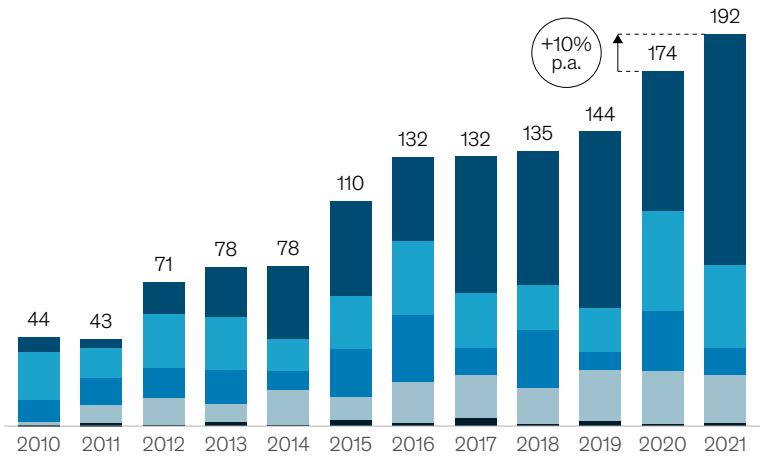
Fundraising

Fundraising in 2021 totaled $192 billion across all private debt strategies, 10.4 percent more than in 2020 and nearly five times the amount raised a decade ago. On the demand side, fundraising growth continues to be driven by growing LP allocations, which have doubled since 2016.[41] Given the growing prominence of the asset class, many LPs are contemplating carving out private debt as a separate allocation category, if they haven't already done so.

Exhibit 29

Private debt fundraising continues to climb.

Global private debt fundraising by substrategy,[1] $ billion



	2016–21 CAGR, %	2020–21 growth, %
Total	2.0	10.5
Direct lending	22.6	65.0
Distressed debt	2.2	–16.6
Mezzanine	–16.8	–56.4
Special situations	3.0	–7.3
Venture debt	4.1	40.3

[1]Excludes secondaries, funds of funds, and co-investment vehicles to avoid double counting of capital fundraised.
Source: Preqin

[41] CEM Benchmarking.

On the supply side, recent fundraising is characterized by more megafunds: five funds of $10 billion or more were raised in the last two years, compared with just one such fund in the previous decade. Vehicles of $1 billion or more now have an 80 percent share of fundraising, 20 percentage points higher than just five years ago. The top end of the market has grown faster than the tail end as the market becomes more consolidated: the top ten private debt funds accounted for 40 percent of total fundraising in 2021, up from 27 percent five years ago.

Fundraising totals reported here likely understate total industry growth, moreover, as they do not capture substantial private debt capital in business development corporations (BDCs) or managed as part of insurance capital pools. BDCs, which are often used by retail investors to access private debt, held an estimated $180 billion AUM in the third quarter of 2021, an increase of nearly $50 billion over 2020.[42] Many of the largest BDCs are managed by the same private markets GPs that appear in reported fundraising totals. Insurance permanent capital, likewise, now accounts for hundreds of billions in AUM for private markets GPs, a substantial portion of which is deployed into private loans.[43]

Private debt fundraising is heavily concentrated in North America and Europe, which accounted for 64 and 30 percent, respectively, of the 2021 total. Fundraising in both regions increased in 2021 by approximately 11 percent. Private debt remains less penetrated in Asia and the rest of the world, which account for less than 10 percent of global fundraising collectively.

Direct lending

Direct lenders make loans to companies without the use of a financial intermediary such as a bank. These loans can take many forms, but they are often senior secured, floating-rate securities that are closely held (and therefore relatively illiquid). Middle-market companies, particularly those owned by PE sponsors, are the most common borrowers.

Direct lending accounted for nearly 60 percent of overall private debt fundraising in 2021, exceeding $100 billion for the first time.[44] It has accounted for 73 percent of the overall growth in private debt fundraising over the last decade, growing nearly 40 percent per annum.

Several tailwinds have supported this growth. First has been the withdrawal of banks, the traditional

Direct lending has accounted for 73 percent of the overall growth in private debt fundraising over the last decade.

[42] Refinitiv.
[43] Ramnath Balasubramanian, Alex D'Amico, Rajiv Dattani, and Diego Mattone, "Why private equity sees life and annuities as an enticing form of permanent capital," McKinsey, February 2, 2022.
[44] Preqin.

financiers of middle-market companies. Direct lenders, which are not subject to the same regulatory capital requirements as banks and are more willing to extend sub-investment-grade credit, stepped into this void. Banks now account for just 11 percent of sponsored middle-market financings, down from nearly 70 percent in 2013 (Exhibit 30).

Second, direct lenders have enhanced their value proposition relative to syndicated lending channels. Borrowers, especially those backed by PE sponsors, have shown a growing preference for the speed, certainty, convenience, and confidentiality offered by direct loans, even when priced slightly wider than a syndicated alternative. The share capture of direct loans over syndicated loans has increased over the past three years, hitting an all-time high of 77 percent in the fourth quarter of 2021.[45]

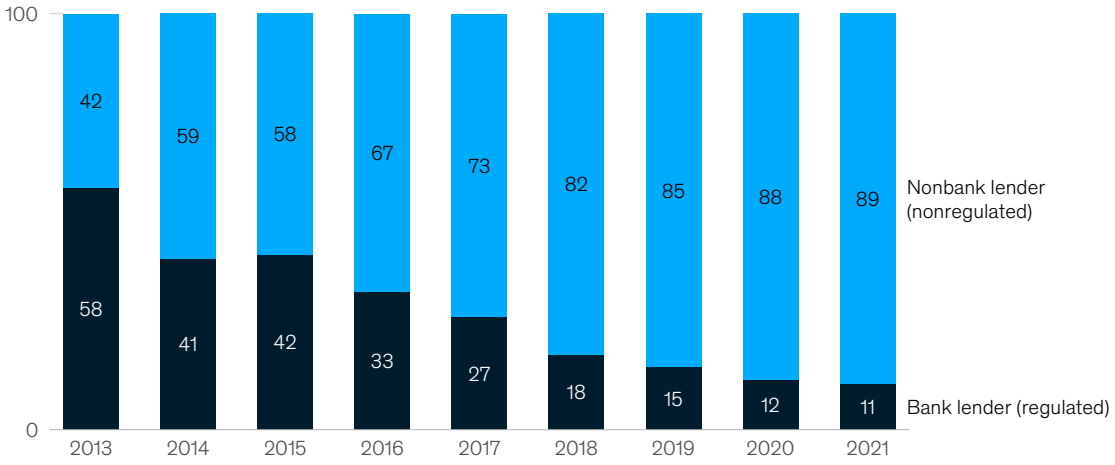
Third, in a decade of sustained low interest rates in government and investment-grade corporate bonds, many institutional investors have rotated a portion of their fixed-income allocations into direct lending, which can generate higher yields and has not, to date, experienced onerous loss rates.

Finally, sponsor-backed leveraged buyout transactions generate much of the demand for direct loans, and annual buyout deal volumes today are nearly three times higher than they were ten years ago.

Exhibit 30

Bank lenders have largely exited the sponsored middle-market.

Sponsored middle-market deals by lender type, %



Source: Refinitiv (deals submitted to private database)

[45] Refinitiv.

In recent years, the addressable market for direct lenders has expanded in two principal ways. First, the strategy has been a beneficiary of its own success. As GPs scale up to larger funds, lenders are increasing the scale of companies that they can finance, thereby growing the universe of potential borrowers. Several of the largest private loans ever, all over $2 billion, closed in 2021.

Second, direct lenders have become more willing to extend credit deep into the borrower's capital structure, beyond the leverage of a traditional first-lien loan. These financings are often structured in a single security, known as a unitranche, that extends to five or six times (or more) a borrower's EBITDA. Unitranche has taken market share in recent years: in 2021, 36 percent of middle-market LBOs were structured as unitranche deals, up from 26 percent in 2020.[46] Borrowers appreciate the simplicity of one-stop financing that can sometimes eliminate the need to arrange a separate second-lien or mezzanine security to achieve desired leverage.

After a decade of impressive growth, the outlook for direct loans remains strong. PE, which drives much of the demand for private debt financing, has dry-powder reserves of more than a year and tailwinds that support its own continued fundraising success. Furthermore, more than $500 billion of existing debt at middle-market companies is maturing between now and 2026 and will need to be refinanced.[47]

Distressed, mezzanine, and special situations

Fundraising by the other major private debt substrategies declined in 2021. This pullback was not unexpected: investors piled into these strategies in 2020 to take advantage of potential financing opportunities resulting from pandemic-related market dislocations.

The decline in distressed fundraising was moderate. Including 2020's banner haul, the strategy raised nearly $90 billion in the last two years, surpassing the previous two-year peak set in 2008.[48] Unlike the period following the GFC, however, many distressed managers have found it challenging to deploy this capital given the speed and magnitude of the economic recovery. US institutional loan defaults totaled under $10 billion in 2021, down 85 percent from 2020. The share of loans at distressed pricing ticked down steadily throughout the year, falling from 6.2 percent to 2.2 percent in the United States (versus a drop from 3.4 percent to 0.8 percent in Europe).[49]

Perhaps in response to this difficult deployment environment, distressed managers are proving increasingly willing to invest in nondistressed opportunities. Similarly, many mezzanine managers are also financing deals outside of their primary strategy, perhaps as a result of tightening spreads and the crowding-out effect of unitranche loans. This evolution is part of a larger private debt trend toward flexible capital that provides borrowers with "solutions" rather than predefined products. Borrowers appreciate the streamlined financing process with fewer potential counterparties, and GPs are able to increase their hit rate on deal flow and maintain their through-cycle relevance.

AUM

Global private debt AUM totaled $1.2 trillion as of June 30, 2021, up 33 percent over the year prior. North America and Europe account for 90 percent of the market, 41 percent of which is housed in direct lending funds, up from 27 percent in 2016.

Private debt is by nature less sensitive to changes in the overall valuation environment than the other asset classes reviewed in this report. AUM growth,

[46] Refinitiv.
[47] Refinitiv.
[48] Preqin.
[49] Refinitiv.

therefore, is primarily fueled by fundraising growth. Despite this handicap, private debt AUM has nevertheless grown at a 17.6 percent annualized rate since 2016. As we enter 2022, private debt appears poised for another year of growth: current LP allocations remain shy of their stated targets, and almost 700 private debt funds are in the market, targeting an aggregate of $291 billion, both all-time records.

Performance

Private debt generated 10.1 percent pooled IRR in the first three quarters of 2021, almost twice the returns in full year 2020 and the best in-year return since 2017.[50] Over the longer term, private debt's median IRR of 9.4 percent (vintages 2008–18) is roughly on par with real estate and infrastructure. Its 5.4-percentage-point spread between top- and bottom-quartile performers, however, is roughly half as large (and less than one-fourth as large as that of PE). LPs primarily look to private debt to deliver reliable, low-volatility returns that exceed fixed-income alternatives, which is exactly what the asset class has delivered over the last decade.

At the substrategy level, performance follows predictable patterns. Senior debt funds (which proxy direct lending returns) delivered the lowest median returns (8.1 percent median pooled IRR) with the narrowest spread between top- and bottom-quartile performers (3.5 percentage points). Distressed and mezzanine funds, meanwhile, generated median returns 200 to 300 basis points higher than senior strategies and exhibit interquartile spreads roughly twice as large, with some of the highest-performing funds delivering over 20 percent net returns.

[50]Burgiss.

5 Infrastructure and natural resources: Beyond roads and bridges

Infrastructure and natural resources funds set three records this year. Global fundraising spiked to an all-time high of $137 billion in 2021. Deal volume reached a peak of $446 billion after 10.3 percent annualized growth over the last decade.[51] Global AUM broke the $1 trillion mark for the first time, reaching $1.1 trillion. In addition, returns of both infrastructure and natural resources (NR) funds improved considerably in 2021.

Beneath these top-line figures, a sea change is at work within infrastructure's mandate and composition. Global macro trends, including the growing importance of environmental sustainability and the increasing role of technology, are changing the types of infrastructure assets that are most in favor. The flow of capital into the asset class, furthermore, has pushed investors to look beyond traditional core infrastructure assets. Core-plus and value-add investments into new asset categories and infrastructure service providers are now in play, as GPs seek to accommodate the return expectations of a new class of infrastructure investor.

[51] Preqin.

These developments are taking place within the context of a projected global infrastructure investment gap of more than $15 trillion through 2030. With new investors entering the space and societal changes accelerating, infrastructure's mandate will likely continue to evolve.

Fundraising

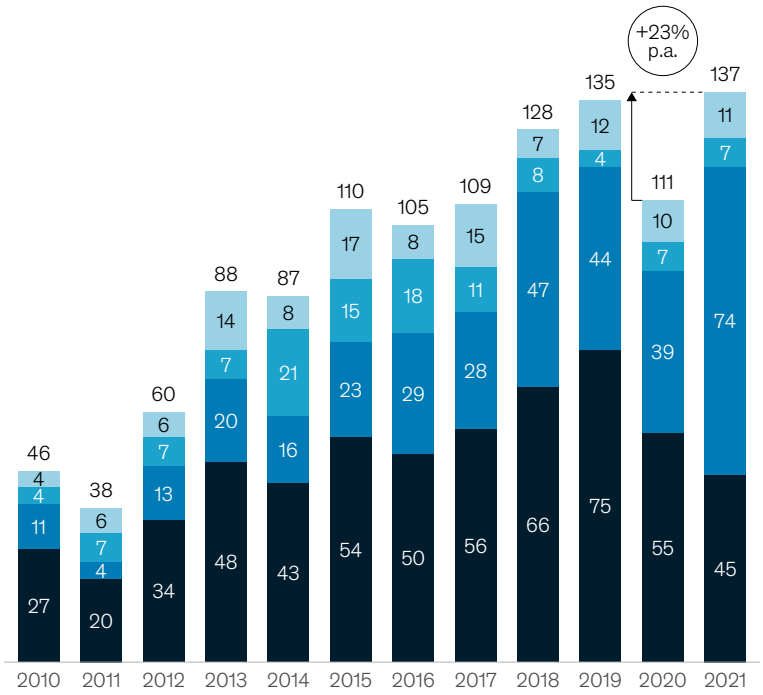
Global fundraising for infrastructure and NR funds spiked to an all-time high of $137 billion in 2021, up 23.0 percent over the previous year (Exhibit 31). The surge follows a pandemic-driven decline in 2020, when global fundraising fell 17.3 percent from the pre-COVID-19 high-water mark of $135 billion. Average fund size also reached a new high of $1.2 billion last year.

Growth was driven by a strong year in Europe, where fundraising increased 87.7 percent to a new record of $74 billion. Notably, three funds over $5 billion were raised in Europe last year, including one over $15 billion. By contrast, just one Europe-focused fund over $5 billion closed in 2018, the previous peak year for European fundraising.

Exhibit 31

Infrastructure funds hit an all-time high in 2021.

Global Infrastructure and NR fundraising by region,[1] $ billion



	2016–21 CAGR, %	2020–21 CAGR, %
Total	4.2	23.0
Rest of world	6.5	8.1
Asia	–17.9	–8.6
Europe	20.4	87.7
North America	–1.8	–16.8

[1]Excludes secondaries, funds of funds, and co-investment vehicles to avoid double counting of capital fundraised.
Source: Preqin

While fundraising in Europe was robust, in North America fundraising fell for a second consecutive year and was 39.2 percent below the 2019 peak. The number of North American funds that closed in 2021 was roughly half that of 2019, which suggests the two-year decline in fundraising may be an issue of supply, particularly given the fundraising growth in Europe. As is often the case, idiosyncratic timing of the market's largest funds creates lumpiness. A single North American fund in 2019 raised $22 billion, while no single fund raised more than $7 billion in 2021.

In Asia, fundraising fell 8.6 percent year over year, continuing a long-term decline. Fundraising in Asia has now fallen for five of the past seven years, declining 15.0 percent per annum since 2014, the highest year on record.

AUM and performance

Infrastructure and NR's global AUM reached a record high of $1.1 trillion as of the first half of 2021, breaking $1 trillion for the first time.[52] This number likely understates the total capital at work addressing infrastructure projects, given plentiful "shadow infrastructure" capital targeting infrastructure deals but residing outside of infrastructure-mandated funds (including PE funds making infrastructure and NR investments). In vehicles tagged as infrastructure and NR, AUM grew 28.3 percent between the first half of 2020 and first half of 2021 and has now grown 15.8 percent per annum over the last five years.

Despite stronger performance in most private markets asset classes, infrastructure fund returns were slightly lower in 2021.[53] Their pooled net IRR for the first three quarters of 2021 was 6.2 percent, down from 7.4 percent in 2020. Over the longer term, the median net IRR since inception for infrastructure funds, 8.6 percent, is just below private debt and real estate. On the other hand, natural resources fund performance was strong last year, contrary to a longer-term trend.[54] Buoyed by commodity price inflation in a recovering economy, NR funds produced a pooled net IRR of 19.3 percent in the first three quarters of 2021. Long-term

In addition to investing in core assets like roads and bridges, investors are also deploying capital further up the risk curve, including in operating companies or early-stage technology ventures.

[52] Preqin.
[53] Burgiss.
[54] Our fundraising data sets do not distinguish between infrastructure and natural-resources-focused funds (as many funds have flexible mandates across the two asset classes). Our performance data, on the other hand, classify funds according to the investments they have made, and therefore enable us to report infrastructure results separately from natural resources.

performance of natural resources remains muted: the median net IRR to date of 3.3 percent is the lowest of the private markets asset classes.[55]

Mandate expansion

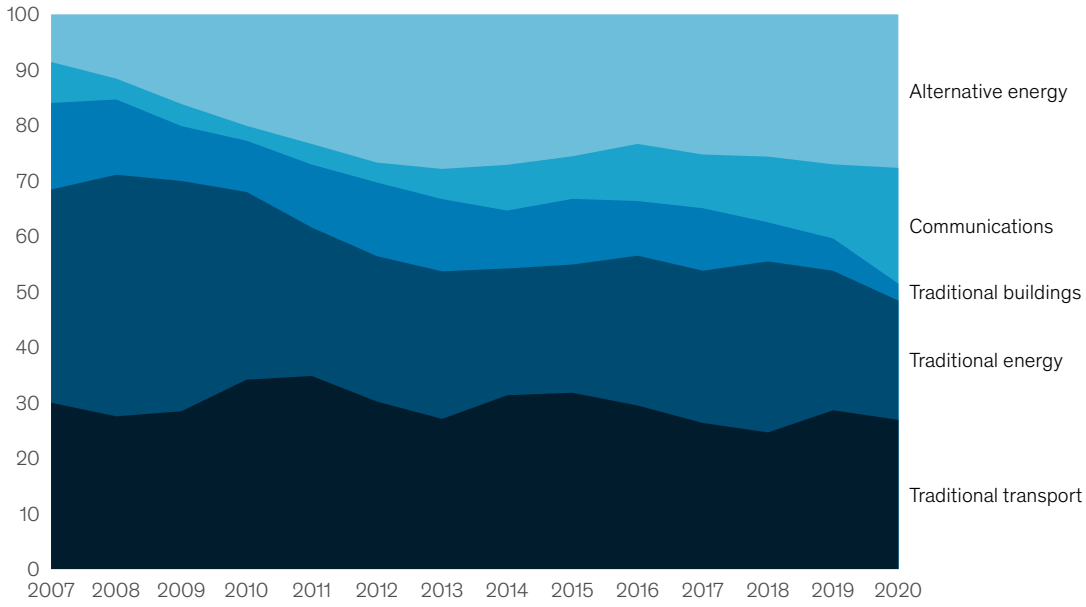
Infrastructure's mandate has evolved over time in response to prevailing macro trends. Growing efforts to decarbonize the economy, along with proliferating ESG commitments, have attracted a larger share of infrastructure dollars to alternative energy and clean-tech assets. Similarly, the "digitization of everything" has increased investment in communications and infrastructure technology in recent years. Deal volume in the alternative energy and communications sectors now accounts for 50 percent of infrastructure deal volume, up from less than 20 percent in 2007 (Exhibit 32).

The outlook for continued investment in lower-emission energy assets is robust. According to a survey by Preqin, more than 80 percent of fund managers believe that decarbonizing energy production will be the primary driver of private infrastructure investment in the coming decade.[56] Cleantech, a related but separate category of

Exhibit 32

Deal activity has shifted from traditional infrastructure to alternative energy and communications tech since the GFC.

Sector share of global infrastructure deal value,[1]
trailing 3 years, 2007–20, %



[1]Some deals have been excluded due to negligible size and missing information. Alternative energy includes clean technology, geothermal, solar, hydro, and wind power. Communications technology includes telephone networks, internet services, cable and wireless networks. Traditional buildings include government, medical, and education buildings. Traditional energy includes power plants, water, and utilities. Traditional transport includes roads, bridges, tunnels, and other transport.
Source: Preqin

[55] Burgiss.
[56] Preqin investor survey.

infrastructure investment, has also grown in recent years: 15 of the largest 50 infrastructure deals in 2021 were for cleantech assets.[57]

A second growing sector within infrastructure is communications, which includes investment in broadband, cloud, telecom, and cell tower assets. Investment in communications infrastructure has increased its share of infrastructure deal value from 10.8 percent in 2016 to 27.0 percent in 2020.

Finally, a third flavor of infrastructure experiencing rapid growth is infrastructure technology, or "infratech." Infratech can take two primary forms: modernizing existing infrastructure and building new, digitally native infrastructure. The former typically involves brownfield projects, such as upgrading traffic lights to include traffic data, while the latter involves greenfield projects, such as building electric vehicle (EV) charging fleets or automated waste collection units. Infratech activity is already sizable: from January 2020 through July 2021, announced digital infrastructure deals totaled $34 billion.[58]

Infrastructure's evolving risk profile

Infrastructure is changing in ways beyond its sector composition. New types of deal are emerging as well, driven by return compression in traditional infrastructure and shifts in infrastructure investors' risk tolerance. In addition to investing in core assets like roads and bridges, investors are also deploying capital further up the risk curve in core-plus and value-add strategies. These investments can be in operating companies or early-stage technology ventures, and may include services or less conventional infrastructure assets such as data centers, modular healthcare units, or airport security systems.

The growth of core-plus and value-add investments is linked to the evolving profile of an infrastructure investor. This is a dynamic relationship: new investors are increasingly open to an expanded definition of infrastructure investment while a broader range of investment opportunities is attracting new types of investors. These newcomers are often seeking higher risk and return opportunities than those that are available from traditional infrastructure investments.

As more capital flows into infrastructure and returns compress (returns in recent years have decreased, with three-year pooled IRR below five- and ten-year IRR), investors may have to look beyond traditional assets to obtain the same return as before. Whereas the typical core-infrastructure deal may return approximately 10 percent, core-plus and opportunistic infrastructure can return 15 to 20 percent. Large PE GPs number among some of the largest core-plus investors. In 2010, seven of the largest ten infrastructure funds were managed by infrastructure-focused GPs. By 2021, six of the top ten funds were managed by legacy PE GPs.

[57] PitchBook.
[58] Infra-Deals, July 2021.

6 ESG: Progress on the ‘E’ and the ‘S’

More institutional investors are incorporating consideration of ESG factors in their investment decisions. Several US state pensions have recently introduced granular ESG targets or policies that exclude certain investments due to their environmental impact, while others have made the diversity of a GP’s personnel a formal criterion in manager selection. In Europe, the first set of the European Union’s Sustainable Finance Disclosure Regulations came into force last year, mandating firm- and product-level disclosures from financial market participants including GPs and LPs. By the end of 2021, over 3,500 investment managers—among them numerous institutional investors—had signed the UN-supported Principles for Responsible Investment, demonstrating commitment to ESG issues.[59]

[59] Signatory directory, Principles for Responsible Investment (PRI).

GPs have followed suit. In 2021, leading GPs and LPs came together to launch the ESG Data Convergence Project to standardize ESG metrics and reporting. Fundraising by GPs with formal, firm-level ESG policies increased to $630 billion, representing over half of total fundraising for the second year in a row. Larger players have led the charge: the average fund size of firms with explicit ESG policies is $1.1 billion, compared to $0.3 billion for those without such policies.

Fund vehicles with an explicit ESG mandate have also grown. Often referred to as "impact" funds, these vehicles have doubled in the last five years, with 73 funds included in the 2021 vintage.[60] PE deal activity for ESG-related investments has also grown rapidly, at 16 percent per annum since 2016 compared with 12 percent for PE overall.[61]

Fives stages of actioning ESG

Although ESG has been a point of emphasis in private markets investing for several years now, the landscape in 2021 is still one of transition. GPs are at various stages in their ESG evolution, with some just beginning to explore and others already seeking to capitalize on ESG as a competitive differentiator and driver of returns. We have observed that firms typically evolve in five stages as it relates to ESG:

1. *Acknowledging that ESG matters.* Most firms begin by a simple acknowledgment that ESG matters, often accompanied by a public declaration of ESG adherence, such as signing the PRI. This is a step beyond the initial "stage 0" that most firms occupied until recently, in which no attention is paid to ESG.

2. *Tracking ESG.* Firms start tracking, measuring, and reporting ESG factors within their portfolio companies and potential target companies, primarily using standard ESG metrics (for example, energy consumed, employee turnover, and anticorruption policies).

3. *Setting targets.* Firms establish ESG targets for their portfolios and develop plans to reach them—for instance, by adopting Science Based Targets[62] for emissions reduction.

Reaching net zero by 2050 may require an incremental $3.5 trillion per year in decarbonization capex, comparable to one-third of current private markets AUM.

[60] Preqin.
[61] PitchBook.
[62] The Science Based Targets initiative is a partnership between CDP, the UN Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) that defines and promotes best practice in emissions reductions and net-zero targets, and provides companies technical assistance and resources to meet them. For more: https://sciencebasedtargets.org/.

4. *Investing on an ESG basis.* Firms integrate ESG into their investment processes and decision making. This process enables firms to make better investment decisions and capture value-creation opportunities from ESG while also controlling for risk.

5. *Transforming companies.* Finally, investors begin influencing and helping companies to improve on ESG as a way to capture value-creation opportunities. Our experience shows that this last phase is where investors can begin to find alpha. As we noted in our report last year, emerging data suggest that improvement in a company's ESG performance is positively correlated with shareholder returns.

An evolution from stage 1 to stage 5 does not happen overnight. A growing number of firms have migrated beyond the first stage, but while they would have been considered pioneers five or ten years ago, having a set of transparent ESG metrics or setting ESG targets is now merely table stakes. A small proportion of firms are at stage 4 or beyond—only 15 percent of firms report having investment policies that take ESG into consideration.[63]

Of course, the three components of ESG—Environmental sustainability, Social responsibility, and sound Governance—are distinct from one another. While private investors have long focused on the "G" as a driver of performance, it is the "E" and the "S" that have come into sharper focus in recent years. In the remainder of this chapter, we examine specific ways in which investors are addressing these two priorities.

E: Sustainability calls for a new set of priorities

Considerations around environmental sustainability, particularly those related to energy transition and the decarbonization imperative, have profound implications for the private markets ecosystem. The sheer amount of capital required to facilitate the energy transition alone is staggering: estimates suggest that reaching net zero by 2050 will require an incremental $3.5 trillion per year in decarbonization capital expenditures, comparable to one-third of current private markets AUM.[64]

As GPs grapple with this transition, they should consider three key priorities: investing in companies that support the sustainability transition, changing how they value assets to factor in climate-related downside, and decarbonizing portfolio companies and assets to help limit risk exposure and open new avenues for value creation.

Investing in companies that accelerate the sustainability transition

GPs seeking to invest in the sustainability transition can employ a range of strategies:

— *Brown-to-green* strategies focus on transforming "dirty" business models to be more environmentally friendly, typically by refocusing product, technology, or service offerings. For example, refineries can be retrofitted to ethanol plants, and offshore services businesses can pivot away from offshore oil and gas and toward offshore wind.

— *Supply-chain decarbonization* consists of investing in companies that provide critical inputs in the decarbonization value chain—for example, companies that supply businesses with advanced materials, components, or equipment required for decarbonization.

— *Green growth* consists of creating new green products. Examples include recyclable plastic packaging, sustainable textiles, green steel production, and carbon-neutral fuel.

— *Enabling technology* focuses on emissions measurement, accounting, and mitigation support to help emitting companies manage

[63] Preqin.
[64] *The net-zero transition: What it would cost, what it could bring*, McKinsey Global Institute, January 2022.

and abate their carbon footprint. Examples include emissions accreditation and trading platforms as well as ESG/HSEQ[65] software.

— *Investing in winners* involves scaling businesses that already have proprietary or leading decarbonization technology or capabilities. Potential targets could include manufacturers of EV components (including batteries) or low-carbon agriculture products.

Most investors today recognize the importance of sustainability. To capture full value from the sustainability transition, investors will need to deepen their insights into green technologies, regulations, and market demand.

Rethinking valuation: The example of real estate

Factoring sustainability-related risk into asset valuations is becoming increasingly critical for investors, especially in asset classes such as real estate, where there is increasing concern that climate change introduces significant risk. Leading real estate players can respond by developing capabilities to quantify climate change's impact on values and using this insight to inform investment and portfolio management decisions.

There are two major sources of climate change risk that impact the value of a given building and affect investors' calculus on what to buy, sell, or retrofit.[66] These are physical risks, both direct (affecting a building) and indirect (affecting the market in which the building exists). There are also sustainability transition risks, which include changes to the economy, regulation, consumer behavior, and technology; these can also be direct and indirect.

Direct physical consequences can be conspicuous: for example, the value of homes in Florida exposed to climate risks are depressed by roughly $5 billion relative to unexposed homes. The indirect impacts of physical risk on assets can be harder to perceive. For example, climate-change-induced flooding could impact transportation arteries to and from

To capture full value from the sustainability transition, investors will need to deepen their insights into green technologies, regulations, and market demand.

[65] HSEQ = health, safety, environment, and quality.
[66] Brodie Boland, Cindy Levy, Rob Palter, and Daniel Stephens, "Climate risk and the opportunity for real estate," McKinsey, February 4, 2022.

a city center without directly affecting major corporate headquarters. The water may never enter the lobby of the building, but neither will the tenants.

Among the most direct sustainability transition impacts are regulatory requirements to decarbonize buildings. Since standard property valuation models generally do not account for decarbonization costs, investors and operators may be confronted with an unexpected major capital expense or tax. There are also a host of less direct but potentially more significant transition risks that affect whole real estate markets. In downtown Calgary, for example, the combination of oil price volatility and market access issues (driven by climate-change-related opposition to pipelines) has contributed to vacancy rates of about 30 percent as of January 2021.[67]

To adequately respond, real estate owners and investors will need to understand the potential impacts of these four risk dimensions on revenue, operating costs, capital costs, and capitalization rates.

Decarbonizing portfolio companies

Another key component of investors' sustainability strategy is decarbonizing portfolio companies. This is particularly important in sectors that face the most exposure to climate change: power, transportation, buildings, industry, agriculture, and infrastructure.

To develop the most appropriate path, private markets players need to understand the range of decarbonization options and their financial and strategic costs and benefits. The specific path to decarbonization will vary by industry and a firm's specific context, of course, but the following steps can help improve the sustainability across investors' portfolios:

— *Quantify the baseline emissions of each asset.* A data-driven understanding of the starting point is necessary to prioritize decarbonization initiatives and measure progress.

— *Decide which type of decarbonization target to set.* A range of potential target-setting standards exist: for example, measuring absolute emissions versus emissions intensity or setting targets at the sector level versus asset level. Players should develop a "house view" on target-setting standards that achieve business, investor, stakeholder, regulatory, and other objectives.

— *Identify decarbonization levers.* Build an asset- or portfolio-level marginal abatement cost curve that accounts for various market and policy scenarios.

— *Set up mechanisms to effectively deploy the decarbonization plan.* These may involve changes to financing and governance, stakeholder engagement, and a range of operational, risk-management, and other programs.

— *Build the ability to monitor emissions reductions.* Much of the value of decarbonizing will come from the ability to communicate progress to stakeholders, thereby creating market differentiation.

S: Private markets firms are making progress on diversity

The business case for diversity in private markets investing is clear.[68] Increasingly, institutional investors are demanding that GPs provide diversity metrics for their firms and portfolios. Progress on this front is fast becoming table stakes to successfully raise capital. But the need to cast a

[67] Dan Healing, "Calgary's downtown office vacancy rates hit record levels amid oilpatch woes," *Global News*, January 26, 2021.
[68] Sundiatu Dixon-Fyle, Kevin Dolan, Vivian Hunt, and Sara Prince, "Diversity wins: How inclusion matters," McKinsey, May 19, 2020.

US PE firms have increased the percentage of ethnically diverse talent and women at their junior levels. Work remains to be done.

broader net for talent goes beyond fundraising: there is also early evidence that diversity can enhance performance.[69] Diverse deal teams bring a broader set of relationships, perspectives, and experiences that can be crucial to relating to management teams and, ultimately, to closing deals. In a highly competitive industry, diversity is an edge that counts.

In the last year, numerous private markets firms have accelerated efforts to advance diversity. Several pieces of recent data point to progress: US PE firms have increased the percentage of ethnically diverse talent and women at their junior levels. They have also made strides in rates of female promotion and retention in midlevel roles.

Work remains to be done. Ethnic diversity in North American PE consists primarily of Asian employees, with low representation from Black and Hispanic/Latinx populations. Gender parity for promotions is still lacking at most step-ups in the pipeline, and the count of women in the uppermost roles, particularly the C-suite, continues to be underwhelming. Furthermore, firmwide diversity statistics tend to mask the disparity on deal teams (and hence in pay parity), as greater gender and ethnic diversity typically exists in non-investing and support functions of PE firms.

In a data set drawing from an analysis of 30,000 private equity employees and a broader sweep of corporate America,[70] we examined the state of gender and ethnic diversity by level at PE firms and corporate America. We also reflected on the practices of private markets firms that are leading in improving diversity and looked for ways other players can follow suit. Following are the results of this analysis and reflection.[71]

Ethnic diversity: Some progress, with important caveats

The US PE firms we analyzed have been more ethnically diverse at entry-level through principal/director roles than corporate America for the past few years. PE also roughly matches the corporate world in the percentage of ethnically diverse managing directors (MDs) and MD equivalents.

Some meaningful caveats temper the success of these firms in achieving ethnic diversity. First, representation by people of color remains limited and below that of corporate America. PE's ethnic heterogeneity is due primarily to the hiring of Asian professionals, who constitute more than 60 percent of ethnically diverse employees in PE today. Looking at junior roles in PE, Asian employees'

[69] David Baboolall, Alexandra Nee, and Lareina Yee, "How private equity can catalyze diversity, equity, and inclusion in the workplace," McKinsey, March 1, 2021.

[70] Data come from the 2021 Women in the Workplace report, by McKinsey & Company and LeanIn.org. Private equity data come from analysis of 18 large and mid-sized US-based private equity firms, encompassing roughly 30,000 employees, and is part of a larger data set that looked at 34 banking and consumer finance companies, as well as 49 asset management and institutional investor firms. Corporate America data come from analysis of 423 firms, encompassing roughly 12 million employees.

[71] Alexandra Nee and David Quigley, "The state of diversity in private equity," McKinsey, March 2022.

share of the workforce is close to double the percentage in the corporate sphere.

Second, although PE matches all US companies in terms of how many ethnically diverse people hold MD or equivalent roles, this is not in itself overly impressive: in both sectors, only about 16 percent of men and roughly a fifth of women in such roles are diverse. Third, PE is still far behind US corporations in terms of ethnic diversity in the C-suite (Exhibit 33).

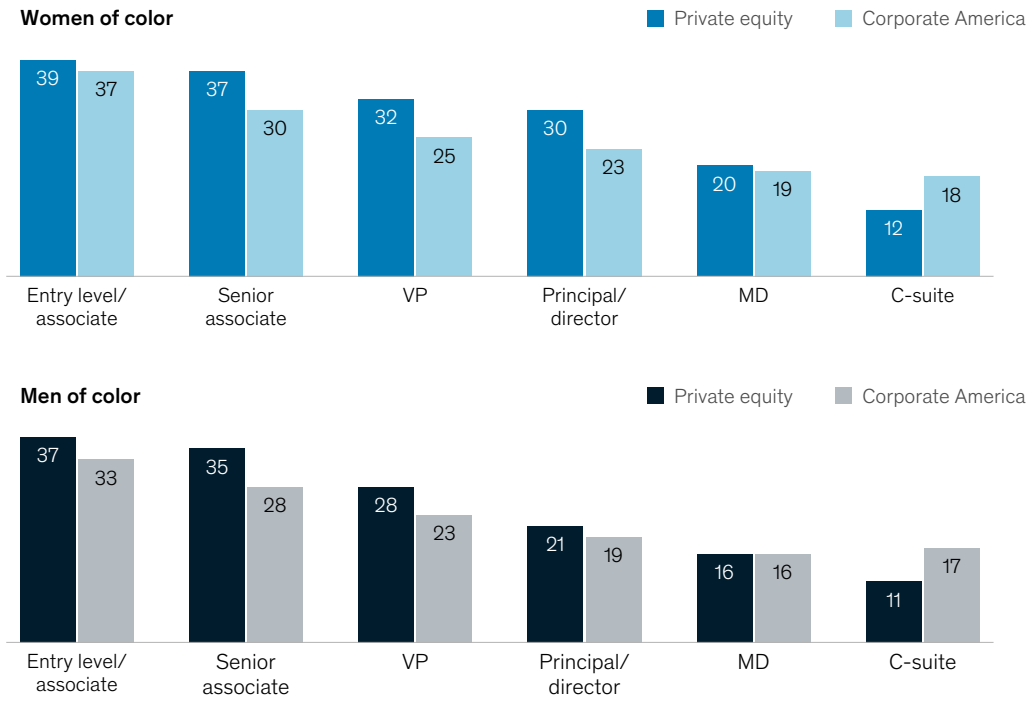
Gender diversity: More women work in PE, but few get to the highest levels

Entry-level roles in our US PE data set are now majority female. Entry-level gender diversity continues through senior associate, vice president, and principal/director roles. Female representation drops, however, at principal/director level and above, in what has been termed "the broken rung" of the career ladder—a phenomenon that occurs in corporate America overall, although not to as great

Exhibit 33

In ethnic diversity, US PE leads corporate America at junior levels but falls behind in the C-suite.

Ethnic diversity in US PE vs corporate America, 2020, % of ethnically diverse employees vs total workforce of the same gender, by role[1]



[1]Levels listed are based on McKinsey's 2021 Women in the Workplace Private Equity Industry data, and correlate to corporate America pipeline roles in the following ways: entry level/associates are entry level; senior associates are managers; vice presidents (VPs) are senior managers/directors; principals/directors are VPs; and managing directors (MDs) are senior VPs in corporate America pipeline.
Source: Women in the Workplace study, 2021

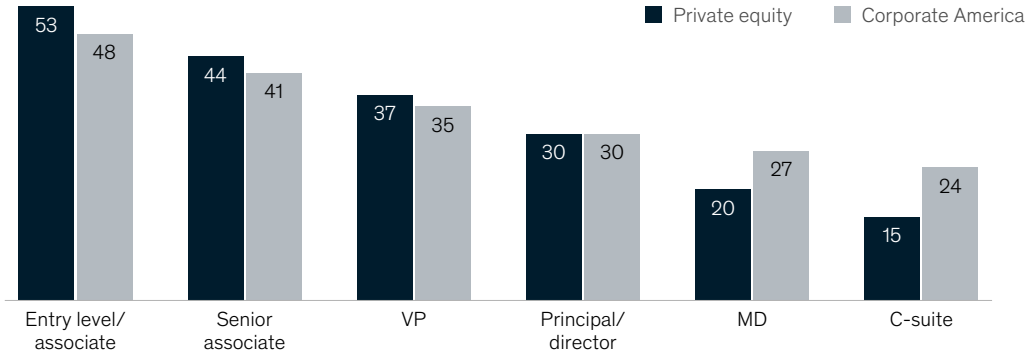
an extent at this point as in PE's talent pipeline (Exhibit 34).

Gaps in promotion parity along the pipeline limit the number of women who rise to upper management. Over the last two years, men were promoted at higher rates than women in almost all roles, with only the percentage of women promoted into the C-suite surpassing the rate of men (Exhibit 35). Statistics on the promotion of women into PE's senior ranks do suggest some positive signs: at each level above VP, the gap in percentage points

Exhibit 34

US PE is behind corporate America in gender diversity of senior leadership but leads for earlier roles.

Gender diversity in US PE vs corporate America, 2020,
% of women of workforce, by role[1]

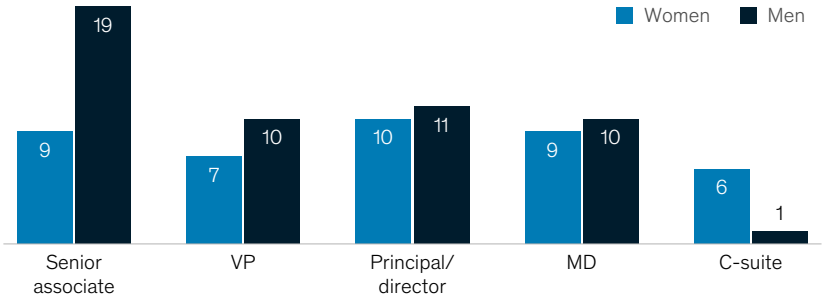


[1]Levels listed are based on McKinsey's 2021 Women in the Workplace Private Equity Industry data, and correlates to corporate America pipeline roles in the following ways: entry level/associate are entry level; senior associate are manager; VPs are senior manager/director; principals/directors are VP; and MD are SVPs in corporate America pipeline.
Source: Women in the Workplace study, 2021

Exhibit 35

In US PE, men were promoted at higher rates than women in almost all roles.

US PE promotions by gender,[1] % of employees promoted into each level, 2020



[1]Promotion rate defined as the number of people promoted into the level over the number of people at the beginning of the year in the previous level. Entry level excluded because employees are typically hired externally at this level.
Source: Women in the Workplace study, 2021

between eligible men and women being promoted narrowed in 2020 (with the gap in promotion rates growing for earlier-tenure roles).

How private markets firms are making progress

Private markets firms that lead on diversity, equity, and inclusion are focused on recruiting diverse profiles for all roles and are actively taking steps to debias hiring and promotion processes. These firms zero in on attracting talent of various ethnicities, especially those less represented in the profession, as well as retaining and promoting their strong-performing women.

One successful strategy to debias hiring and promotion processes is to be transparent about desired skills, capabilities, and above all, outcomes for each position in the investing hierarchy. By pinpointing the expected outcomes for each level, firms minimize the primacy of the style with which success is achieved, and zero in on actual achievements. Defining the results that matter for each role is crucial to broadening the lens, without lowering the bar, for candidates to receive equitable sponsorship, mentorship, debiased feedback, and ultimately, fair promotion.

7 Digital and analytics: Efficiency and performance through digitization

Amid strong growth in the private markets—global AUM has grown 19 percent annualized since 2016—the number of private markets firms has risen by only 6 percent per year. Private markets players have scaled considerably: the average firm is over 60 percent larger than it was in 2016, and firms at the top end are larger than ever before. For example, eight have raised more than $50 billion in the last five years, up from only one in the five-year period ending in 2016.

In most industries, scale begets greater operating efficiency and higher profit margins. In private markets investing, however, operating leverage has been elusive. Increased operational complexity—driven by additional asset classes and geographies, more fund vehicles and separate accounts, and a larger and more diverse set of limited partners (each with a growing set of bespoke reporting demands)—has mitigated the extent to which large GPs benefit from scale economies.[72]

[72] Sudeep Doshi, Bryce Klempner, and Nikhil Sudan, "How private equity is tackling operational complexity," McKinsey, October 26, 2018.

While the private markets overall are still in the early stages of digital maturity, leading participants are increasingly investing in digital and analytical solutions to combat such scale inefficiencies. Our research suggests that large multistrategy fund managers (more than $10 billion AUM) typically spend $1 million to $5 million per year on third-party solutions and software per asset class. Factoring in related spend on internal capabilities, leading managers are investing tens of millions of dollars per year.

First and foremost, digital leaders get the basics right. A clear enterprise road map that outlines the key digital and analytics use cases, the business value of each, and their sequencing in terms of quick wins and major builds, is a prerequisite for greater digital maturity. It is also critical to build a high-quality digital infrastructure, including purposeful organizational setup and codified processes for efficient and secure data management.

On top of this foundation, and of particular importance to achieving scale efficiencies, are tools that automate repetitive tasks, whether in investment processes or middle- and back-office functions. Firms can install tools that pre-populate research memos, build deal-screening funnels, generate portfolio dashboards for committee meetings, and automate tasks such as data entry and expense reporting.

Finally, firms are also investing in enhanced data science and analytical capabilities that contribute directly to the investment process. These tools can extract knowledge and insights from complex, unstructured data across a broad range of application domains. Firms are also developing streamlined software portals utilized by LPs and portfolio companies, which can improve customer experience while increasing self-serve capabilities (and thereby reduce the burden on investor relations from ad hoc requests).

Our experience suggests efficiency gains from such initiatives can be meaningful: we have seen cost savings of 4 to 7 percent and 10 to 15 percent productivity increases on an AUM-per-employee basis. Concentrated investment in digital and analytics solutions can also considerably improve the quality of insights that firms derive from data. The following is a cross section of specific tools and capabilities we have seen leading private markets firms develop:

— *Data warehouses as a single source of truth.* Data warehouses to store, organize, and quality-check data across a GP's operating ecosystem are essential when scaling. The resulting data set addresses a common GP pain point, serving as a single source of truth from which information can be pulled for analytics, reporting, and other use cases.

— *Company and asset screening.* Analytical tools that ingest and screen market and company information can more efficiently identify companies likely to fit a GP's investment thesis. Firms can use such tools to create a targeted list of potential targets for manual review.

— *Automated generation of inputs into the diligence process.* Data gathering for diligence processes involves many routine but time-intensive processes that can be automated. Examples include geospatial analyses to forecast sales-performance improvement and brand navigators to test brand strength. Investment professionals still play key roles, of course, but automating inputs can accelerate timelines and free up their capacity for higher-value analyses and decision-making.

— *Textual analysis for faster tracking and reporting.* Natural-language processing tools are capable of ingesting and analyzing written documents, including financial statements and

memos, which can be particularly valuable in portfolio monitoring applications. A tool that collects data on portfolio-company performance from management statements, for instance, can facilitate faster and more efficient LP reporting.

After a decade of advising private markets players on their digital capabilities, we have identified a number of learnings:

— *Set a business-backed, use-case-driven vision.* Successful transformations start with understanding the use cases digital capabilities are intended to enable. A GP may choose to optimize for efficiency improvements in investment decision making and external reporting. Alternatively, GPs may pursue tools focused on portfolio-company value creation through, for instance, value-based pricing, high-fidelity customer segmentation, or efficient routing for services companies.

— *Make the investment.* Building distinctive digital capabilities doesn't come cheap: investments can quickly scale into the tens of millions of dollars. It's also more than a question of just choosing the right software vendor. Currently, there is no off-the-shelf software that can provide all the functionalities private markets players seek. Leading firms have learned that integrating first-party and third-party data is key to differentiated insight.

— *Focus on talent.* Digital transformations require professionals with specific skills, all of whom are in high demand from other private markets firms as well as broader industry. To win the war for talent, private markets players must provide attractive compensation and benefits packages and, perhaps more importantly, a clear and fruitful career path.

— *Be agile.* Building firmwide digital and analytical capabilities can be a long journey. Building and iterating on a minimum viable product is often more productive than attempting to solve a problem in one fell swoop. The old adage is particularly true in moving toward a more digital private markets business: firms should not let perfect be the enemy of good.

— *Commit to change.* Digital transformation requires reconsidering a firm's operating model. Reengineering entire investment and operational processes to harness technology requires robust change management across the front and back offices. Early buy-in and engagement from business leaders is key; the process cannot be "outsourced" to the CTO or a couple of analytics champions. CEO-level sponsorship is often required to create, sustain, and capture the value from a digital transformation.

Digital and analytics solutions can help private markets firms maintain efficiency as they scale, create differentiated insight, and improve investment performance. Building these capabilities comes with challenges, including the need for hefty investment, competition for talent, and the imperative to design tools customized for highly specific use cases. The reward, however, can be speed, accuracy, and efficiency that enable productivity gains across the back office and faster and better investing decisions.

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